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FROM THE EDITOR

Keeping our interests fresh

Choosing the photo of Eric Brockmann's HO 4-axle Club Bell railroad for this month's cover was a no-brainer. Only a six-year-old, and his rugged wooden train is stunning. But the power of the story on page 60 isn't what surprises you. Now he keeps his model railroad Dads.

Eric resides the present day, so he's modeling today's. Generally. Two months from now, when NHL schedules are replaced with chaos for 2012, the train on top of the Clyde Bell also moves forward.

Having carried on Eric's railroad across two name years — EAST DITCH is dead — and the continuation of radio broken | real time models, Eric also keeps his railroad infrastructure up to date. He has added the "relative — actual" questions signal bridges so his family with wire downtown level signals.

Another look back is the month's main plan: the Milwaukee Road's Iron Line to HO scale.

"Model railroad?"

The Model Railroader staff starts a project based modeling the Iron Line, which was published in the January through May 2009 issue. In this month's issue, author Rich Hasenauer offers a look back at the Iron Line.

While our track plan was 4 x 12 feet, that's a dark study Iron Line, shown on page 56, stretches across part of the lower level of his brother's home.

This another book look out for begins on page 16. It's been 14 years since Model Railroader last published a story on handlaid N scale turnouts. The tools suggested since introduction dates to this story can also apply to other scales, and that are especially useful for HO scale turnouts with lightweight rail, such as Code 70 or even smaller.

A few other notes this month:

Take a Model Train to Work Day is Friday, Sept. 30. Take a close around with figures to show off a basement or an other model railroading object to your colleagues or partners, and maybe even convert one or two of them.

We're wrapping up work on the Model Railroader magazine 75-year Celebration on DVDs. The disc set will contain every issue we have published from 1934 through 2009, all 49,000 pages. We're never offered anything like this before — so turn to page 67 for information about ordering your copy.

Digital editions of Model Railroader magazine will be on sale soon. Digital subscribers will be able to read each new issue on computers or portable devices such as iPads, Nooks, and other tablets. Stay tuned for more information.

I'm disappointed we can't last month to unveil a video showing how to use pastel to operate the Mary's HO scale railroad. I'm not one bored in the October issue. We'll see video you wouldn't have. Instead, we'll go to our website and click on "Online Extras," then at the bottom click on "See all Online Extras" and scroll down to October's issue.

Contributing to Model Railroader

We welcome contributions from our readers, including articles, photographs, and prototype drawings. For detailed information on submitting material to MR, contact our editorial assistant Kris Dolezalek at 262-796-8776, ext. 565, or kriscaj@kmpg.com. Model Railroader assumes no responsibility for the safe return of unsolicited material. We assume unsolicited material is intended for publication by Kalmbach Publishing Co. unless otherwise noted. We assume letters, questions, news releases and club news items are contributed gratis.

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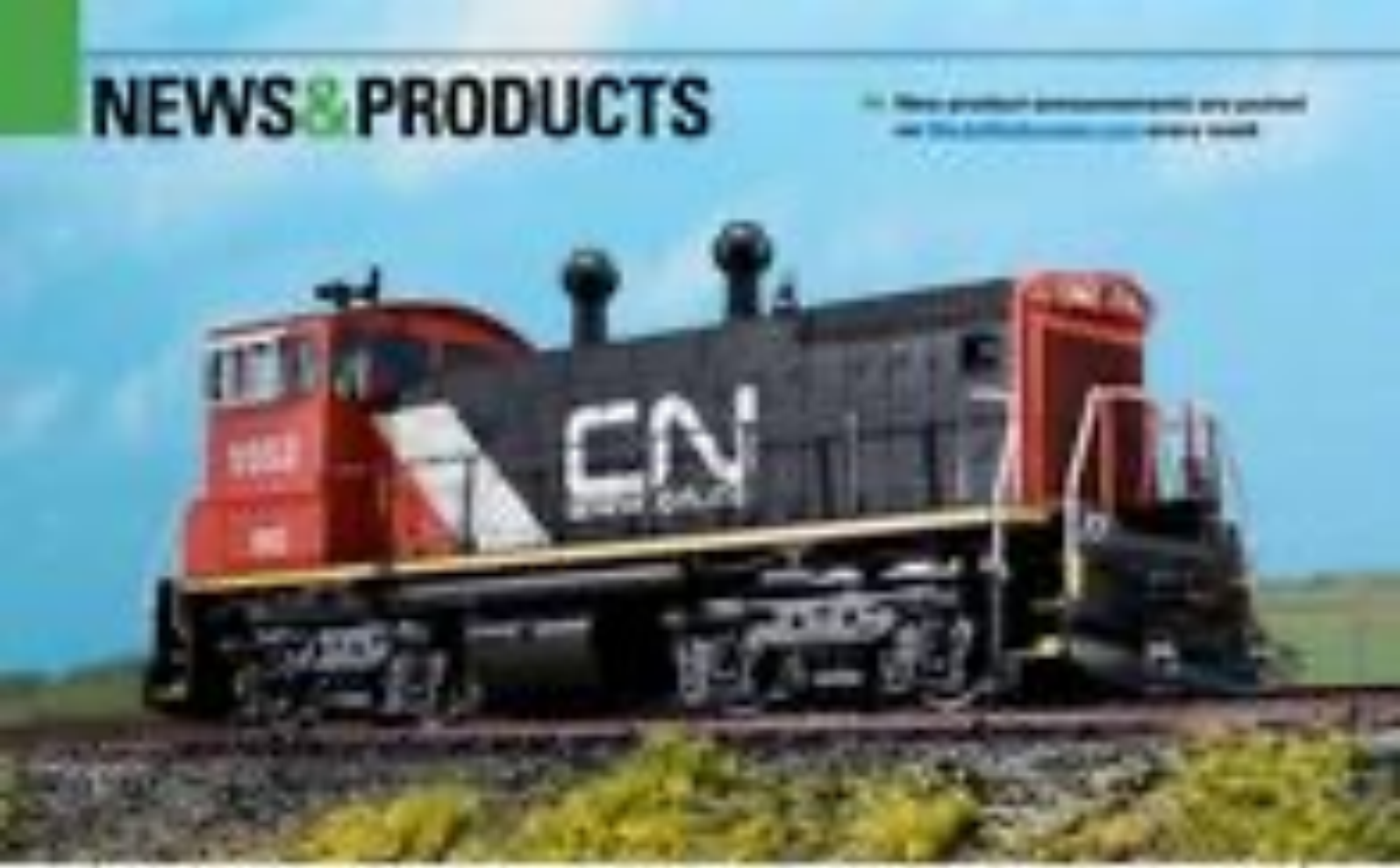
HORIZON

NEWS & PRODUCTS



HO scale Alcoa Montreal Division EMD F9B. Athearn is offering this Ready-to-Roll variation in new paint schemes, including Canadian National with Wisconsin Central repainting marks, Amtrak & Southern, and National Aeronautics and Space Administration. The kit has polycarbonate specific details and a nine-pin socket for a Digital Command Control decoder. Price model is priced at $119.98. Athearn Trains, 310-532-7463, www.athearn.com

Industry news

• Take a Train to Work Day. On Friday, Nov. 20, 2015, model railroaders across the country will add more coal cars to the seemingly endless unit trains that bring more tonnage to other hobby writers to work. Launched in 2000, Take a Model Train to Work Day kicks off model railroading's high season, culminating in the December holidays.

Take a Model Train to Work Day dates on the government-referenced holiday the World's Greatest Hobby campaign to promote interest in model railroading. It's also the Del General Motors Design Center in Warren, Mich., Take a Model Train to Work Day has focused on several traditions, with dozens of employees participating every year.

For more information on Take a Train to Work Day, visit the NMRA website at www.groundthrow.com.

• World's Greatest Hobby achieves non-profit status. The Internal Revenue Service recently approved the World's Greatest Hobby as a non-profit educational charity, granting it 501(c)(3) status.

"On behalf of its board, I would like to thank Dave Simmons for all his hard work this process," said Terry Thompson, Model Railroader's publisher. "We're not pleased to have reached this milestone, which will save the time of other representatives. World's Greatest Hobby remains a unique example of an industry and its customers working together to promote a hobby."

Founded in 1995, the World's Greatest Hobby campaign helps educate the public about model railroading.

• World's Greatest Hobby on Tour 2015 schedule. The World's Greatest Hobby on Tour will be returning to four venues and debuting in a fifth in 2015. The five tour stops are Indianapolis (Indiana State Fairgrounds), Jan. 1-4; Chicago (Schaumburg Convention Center), Jan. 15-17; Salt Lake City (South Towne Expo Center), Feb. 4-7; Portland, Ore. (Oregon Convention Center), Feb. 25-28; and Cincinnati (Sheraton Sharonville Center), Mar. 18-21.

For more information about the World's Greatest Hobby on Tour, visit www.wghobby.com.

• Model Railroad Industry Chairman of the Hobby Manufacturers Association spoke. The Hobby Manufacturers Association (HMA) Model Railroad Industry Division (MRID) recently presented the 2014 Harlan E. Ott Hobby Award of Merit to Alan Pollock of Fox & Canon in with the Hobby Hall award. The presentation was made at MRI at the Division's membership meeting, held during the National Train Show.

The hobby honors go into the model railroad industry in the 1950s and produced that board and corrugated metal structure model kits and freight and passenger car models. Many of the models are still being sold, built, and displayed today. Herman Hendrix, Gregg's son, accepted the award on behalf of the family.

Alan Pollock received the Hobby Hall Award, which recognizes distinguished service to the model railroad industry. Pollock has served as a member of the Model Railroad Industry Division Council since 1994, including three

>> Mobile Updates

Scan this code to access News & Products from your mobile device.

N scale Pennsylvania M6 class M6b sound-equipped cabooses. An orchestral brass kit of a common Pennsy workhorse is the latest offering from TrainCo Model Sales. The unpainted kit has separate grab irons and repair brass but doesn't include trucks or couplers. It has a manufacturer's suggested retail price of $34.95. TrainCo Model Sales, www.traincoMS.com

series as vice president. He has also served as an officer of the National Model Railroad Association, and has served as the NMRA's company liaison since 1996.

Awards were also presented to Rob Hack and Jesse Moser (Signals Trainer for their service to the organization.

>> Street Details expands line. Street Details is now selling decals produced by John Moser Graphics. Some of the information used to create these decals on the site includes Cincinnati Union Terminal, Great Miami, and Indiana & Ohio. To see the complete product line, visit www.streetdetails.com/SilverScreen/SilverScreen.html.

HO scale locomotives

>> Atlas C-420 diesel locomotive. Delaware & Hudson blue and gold scheme; Pacific Fruit of Mexico (Sunnyside Yard, Lehigh Valley) white on Crystal Red scheme; Louisville & Nashville and National Ry. of Mexico. Two-tone numbers each. Kits include factory-installed headcode and magnetic knuckle coupler. Direct current model $189.95, with SoundTraxx Digital Command Control sound decoder, $299.95. January 2012. Ready to run. Atlas, 770-968-2279, www.atlas-trains.com

>> Electro-Motive Corp. FT diesel locomotives. New paint schemes: Virginia & Ashland Railroad in white (height scheme); Great Northern (Empire Builder); Milwaukee Road (maroon and orange; New York Central lightning stripe); Northern Pacific (black with red and yellow stripes; and Reading (blue with green and yellow stripes. Factory-installed details, prototype-specific details, and Kadee magnetic knuckle coupler. Direct current, A-B set, $189.95; A-A set with SoundTraxx Digital Command Control sound decoder, $349.95. Ready to run. Intermountain Railway Co., 801-773-1991, intermountain-railway.com

>> General Electric AC4400CW diesel locomotive. New paint schemes: BNSF Ry. (Heritage II paint scheme); Canadian Pacific (golden leaves and black Pacific "Building America" scheme). Five pole motor with two flywheels; golden-white light covering drive headlight, and LP speaker housing in front unit. $189.95-$249. Ready to run. Walthers, 800-341-7140, www.walthers.com

>> 2-8-8 "Old Timer" steam locomotive. Canadian Pacific, New York Central, Southern Pacific, and Union Pacific. Two-tone numbers each. Two pin socket for Digital Command Control decoder, prototype-specific details, and Kadee magnetic knuckle coupler. $239.95. January 2012. Ready to run. BroadWay, 516-767-7340, www.broadwaytrains.com

>> Electro-Motive Division 6000 diesel locomotive. Huntington Northern, Iowa Hi-Rail paint, Wyoming, Central Pennsylvania, Hill paint, Wyoming, Southern Ry. (Phase II), and Southern Pacific ("Black Widow" paint scheme. Phase II. Four road numbers. Two each for direct current and Digital Command Control models. Pilot grab irons and fill rings, and Proto-Max magnetic knuckle coupler. Direct current model, $199.95; with SoundTraxx Digital Command Control sound decoder, $299.95. January 2012. Ready to run. Wm. K. Walthers Inc., 414-527-0770, www.walthers.com

HO scale freight cars

>> Eastern Car window cabooses. Pennsylvania Railroad models are paint schemes: Chicago & Eastern Illinois, Crystal, Missouri Pacific, and Rock Island. Three car numbers each. Dull window glazing, metal wheelsets, and Kadee magnetic knuckle coupler. $27.95. Ready to run. Walthers, 800-341-7140, www.walthers.com

>> Thrall 10-foot three-unit airbag-lined wall car. Trans Track Trans and TTX. Six car numbers each. Also available undecorated. Molded metal details, prototype-specific coupling boards, and magnetic knuckle coupler. $189.95. Ready to run. Steam Line, Atlas Model Railroad Co., 908-687-0888, www.atlas-trains.com

>> Pullman-Standard 3,000-cubic-foot capacity waffle side boxcar. New paint schemes: Louisville & Nashville, Alabama, Tennessee & Northern, Northern Lines N.J. Info Division, Toledo & Ontario, Norfolk & Western, and Northern Ry. Six car numbers each. Also available as undecorated for "separately applied decals." Metal wheelsets and Kadee no. 36 magnetic knuckle coupler. $32.95. Walthers cutlery. Ready to run. Athearn LLC, 888-700-2700, www.athearn.com

>> Association of American Railroads 50'-6" 70-ton flatcar. New paint schemes: Louisville & Nashville, Chicago & Eastern Illinois, Crystal, Missouri Pacific, and Illinois Central. Three car numbers each. Dull window glazing, metal wheelsets, and Kadee magnetic knuckle coupler. $27.95. Ready to run. Walthers, 800-341-7140, www.walthers.com

N scale 1932 American Railway Association boxcar. New road names on this Atlas model are Kansas City, Chesapeake & Ohio, Nashville, Chattanooga & St. Louis (which since acquired Norfolk Southern (pre-1982 company) and Western Maryland. Each paint scheme is available in three road numbers. The seals on rail car kits knockably complete and is priced at $23.95. Atlas Model Railroad Co., 908-687-9000, www.atlasrr.com

Pennsylvania, Chesapeake & Ohio, Erie Lackawanna, Anthony Walker Bell, and Pere Marquette. Six car numbers each. Laser-cut wood deck, wire details, and Kadee magnetic knuckle couplers. $24.95. Ready to run. Intermountain Railway Co., 303-773-1940, www.intermountainrailway.com.

• 40-foot single-sheathed boxcar. New paint schemes: Canadian Pacific, Missouri Kansas Texas, Southern Ry. Lines, and Southern Pacific. Three car numbers each. Metal wheelsets and Northern's scale magnetic knuckle couplers. $24.98. January 2012. Ready to run. Rapidline, 561-791-1146, www.rapidlinepublishing.com.

• Evans 50-foot boxcar. Two paint schemes: Canadian National Canada Atlas, Pere Marquette (which was acquired and, on U.S. boxcars, lettered as Chesapeake & Ohio). Metal wheelsets and Power Max magnetic knuckle couplers. $27.95. January 2012. Ready to run. Wm. K. Walthers Inc., 414-351-8456, www.walthers.com.

HO scale passenger cars

• Silverliner IV "reversed pair" two-car train kit. One piece cast resin shell, molded underframe, metal window inserts, and Walthers Pennsylvania, Chesapeake, Northern Illinois Metra decals. $129.95. Alpine Miniatures LLC, www.alpineminiaturesllc.com.

• Pullman-Standard 10-foot lightweight baggage car. Two paint schemes: Canadian National, Chicago Great Western, Great Northern, Big Sky Blue, Gold, Mobile & Ohio, Kansas City Southern Ry., and Louisville & Nashville. Frames molded into grab irons, metal wheelsets, and Power Max magnetic knuckle couplers. $64.98. January 2012. Ready to run. Wm. K. Walthers Inc., 414-351-8456, www.walthers.com.

HO scale structures

• Military barracks kit. Laser-cut assembly with separate windows and trim. Footprint 6.5" x 2.5". $49.95. Micro Trains Line Co., 503-636-3755, www.micro-trains.com.

• Old homestead. Factory assembled and decorated structure. Details include a quilt draped across a porch railing, trellis, a cow in the pasture with flowers, and a dog sitting on the porch. $44.99. Built up Small Landmark Structures line. Woodland Scenics, 253-926-3300, woodlandscenics.com.

HO scale details and accessories

• 40-foot standard height corrugated Dress-pack. Footprint 2.5" x 2.5". Injection molded. Contains Couplers and Wide Gap. Two sets each. Also available undecorated. "Weathered" styles, separately applied dust and bandits, optional rivets, and prototype-only accessories bundled and applied. $21.95 per three pack. Undecorated $20.95. Model Cars. Atlas Model Railroad Co., 908-687-9000, www.atlasrr.com.

• Illuminated bicycles and motorbikes. Various different styles and colors. Bicycles include cross-light switching diodes (wired series) and use 1.5V's that operate on alternating current or direct current at 6-20 volts. Select models also offered in N scale. $29.99 each. Produced by Bachmann, available from Allied Model Trains, 800-814-8000, www.alliedmodeltrains.com.

• Pullman-Standard lunch counter lounge-dormitory car sets. Chicago, Burlington & Quincy and Great Northern. Brass plate with full decking, etched solid stairs, and drill marks ready for grab irons. Kadee's Walthers Magnet Knuckle Couplers and Lake series cars in Rolling Car Sales brass. Ready for $95.75 each plus $6.50 for direct orders. Rolling Car Sales, 847-973-2766, www.brass-scales.com.

• Wound barrels. One piece low-detail resin castings. Kit pack 40. Dimensions: Keep Model Works, 248-236-3236, www.keepmodelworks.com.

• Brewer grain and totes. Molded from the Grain Collection premium totes on grain cart or wine. $3.95. Grain Cars Model, grainmodels.com.

• Trailers and accessory sets. Pre-dog trailer. $19.99. Inc. cross-ties.

N scale freight cars. New cars from Micro Trains Line Co. include 50-foot gray door boxcars amended for Post Grievers Express (USD 20), Chicago Great Western (USD 20), and Pacific Great Eastern (USD 20), a Southern N Ho Gauge 50-foot flatcar with rack (USD 18), 50 cars have plastic wheelsets and knuckle couplers. Micro Trains Line Co., 541-525-1755, www.microtrains.com

Pacific 50-foot gondola with load. USD 30, and a Denver & Rio Grande 50-foot flatcar with rack, USD 18, 50 cars have plastic wheelsets and knuckle couplers. Micro Trains Line Co., 541-525-1755, www.microtrains.com

N scale locomotives

↓ Kiesera Models Division GP40W and GP40R diesel locomotives. [illegible] Kiesera Models Division, [illegible] Ready to run. Kiesera Models, 847-734-2344, www.kiesera models.com

↓ Kiesera Models Division SD40(2)W(R) diesel locomotive. Canadian Pacific (gold) livery (weld), Indiana Rail Road, and Union Pacific. Two road numbers each. Five pole motor with dual brass flywheels, directional headlight and factory ground mounted [illegible] Ready to run. Kiesera Models, 847-734-2344, www.kiesera models.com

N scale freight cars

↓ Dunderman Wood-Sheathed N-scale stock. Indications of Milwaukee Road, Chicago & Northwestern, Rock Island, Union Pacific, Great Northern, and Canadian Pacific liveries. Three cars, $[illegible] (USD [illegible]) each, and 7 [illegible] cars with other reflective stripes, see catalog. Four axle truck design as hand glass. Metal wheelset and magnetic knuckle couplers. [illegible] Dunderman, [illegible] www.dunderman models.com

↓ Pullman Standard PS-2CD 4,427-cubic-foot capacity covered hopper. Two pack reflective livery (Union Pacific, Milwaukee, [illegible] Burlington Northern Santa Fe, Chesapeake & Ohio, and Milwaukee Road). Six car modern pack. Tacked stainless steel running boards, separately applied details, and McHenry magnetic knuckle couplers. [illegible] Ready to run. Eastern [illegible] www.bachmanntrains.com

↑ Diesel hoppers. Conrail (Blue Coal) [illegible] Chesapeake & Ohio car numbers, [illegible] Norfolk Southern and Southern Railway. Shelter car numbers [illegible] Ready to run. Bachmann Co., [illegible] www.bachmann trains.com

N scale structures

↓ Walthouse Manufacturing Co. [illegible] Includes loading dock, brick panels or block car windows, and optional window units. Footprint is [illegible] Walthouse Manufacturing Co., [illegible] www.walthouse.com

↑ City skyline low-relief buildings. Factory assembled with reflective window glazing. [illegible] Model Art – Model Showcase at Auchan, [illegible]

N scale details and accessories

↓ Pullman Standard lunch counter lounge observatory car.

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Club offerings

Minneapolis & St. Louis refrigerator car. Custom decorated brass HO-scale kit sold by the Chicago & North Western Historical Society. $58 plus $5 shipping per order. Illinois residents add 6.25% sales tax. Order from Charles Hill, 22 Old Blue Road, North Riverside, IL 60546; www.cnwhs.org.

Louisville & Nashville N3 four-single dome tank car. Custom decorated brass Scale HO-scale kit sold by the Delaware and the National Model Railroad Association North Alabama Chapter Region. $60.00 plus $5.00 shipping. Order from [illegible] and case-sensitive handicrafts kind or call 903-[illegible].

Northern Pacific Ry. 1912 wall calendar. Famous photo plus two dates on 100 history of each plate. $1.75 shipping and handling per order. NPRHS in Columbia, 2700 West Dr. Office, Minneapolis, MN 55416.

Chicago, Burlington & Quincy and Great Northern Cab sets. For 1967 Empire Builder and 1970 Western Star. Brass sides with full skirting, etched wall panels, and grab irons, power for grab irons. For use with American Limited Models car kit. $275 each plus $6.50 for direct orders. Brass Car Sides, 907-[illegible]-1784; www.brasscarsides.com.

[illegible] foot centerpivot wheelset trucks. Plate Fan, "A" Line, C.R.P.C., well-fan Level, $[illegible] each. Old and Inventories, 973-[illegible]; [illegible].com.

[illegible] foot corrugated side trailer. Pacific Fruit Express and Great Pacific, [illegible] wholesale. Six trailer numbers each. $[illegible]. Trademarks Inc., 970-[illegible]; [illegible].com.

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NEWS & PRODUCTS

S scale locomotives

Southern Pacific class P-8 and P-10 4-6-2 steam locomotives. Class P-10 offered with diaphragm casing and as freight version. Brass model with decorated lighting, smoke gloving and detailed backhead. Direct current models in DRMS, with DCC Digital Command Control and Sound with Quantum sound. $1,600.00. Ready to run. Hand-fired Pacificos of Small Models. 888-888-1777. www.hobbyli.com

S scale details and accessories

Wood trains. Five pure wood colored train carriage kits pack. $90. Frankenstein Kurz Model Works. 888-218-7774. www.frankensteinkurz.com

Assorted vehicles. Stock female series 6. 1969 Chevrolet C-10, 1977 Dodge Short Stepside, 1980 Volkswagen Pickup with Food Package, 2003 Sierra, Silverado and 2004 Ford Tremor pickup on Country Roads series, 1966 Dodge D-100, 1972 Chevrolet Cameo C-10, 1974 K20 Jeeps, 1975, 1977 Dodge Sidewinder, 1968 Ford Cross Victoria (Limited) Country Vu, pickup and 1980 Pontiac Firebird Trans Am. Die-cast metal vehicles with detailed engines and rolling metal tires. Prices in the mid-teens. Greenlight Collectibles. www.greenlightcollectibles.com

Z scale locomotives

Micro-Trains Bonsai #1 4, and 8 diesel locomotives. Virginia, Virginia & Tuba RR 4 Alcoa, DRS freight volume. With magnetic knuckle couplers. Powered by one N20-N9 mini motor. Ready to run. Micro-Trains Line Co. 541-476-1755. www.micro-trains.com

Z scale freight cars

23,000 gallon capacity tanker Rice tank car. Two piece volume. Imperial Aluminum Modified Co. Metal wheelsets and knuckle knuckle couplers. Freight car 100-ton pack. $13. Ready to run. Intermountain Z trains. 800-766-1775. www.intrack.com

Assorted freight cars. Cover hopper, 50 foot double door boxcar, two car numbers available. $16.95. See

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HO scale Bachmann speed boppers. These quick schemes are the ready-to-run cars from Tangent Scale Models are Chesapeake Resources & Lake Erie (one road number), Illinois Central Gulf (six numbers), Louisville & Nashville (six numbers) and Union Pacific Minas (seven, two paint schemes). Twelve numbers except as noted. Unpainted cars available for all roads except UP (decals and separately). Wire grab irons, metal wheels, and removable coal load. $32.95. Tangent Scale Models, 609-275-9168, tangentscalemodels.com

Line Pullman Standard P4 [illegible] cars from Key Lines Designs $29.95. New York, New Haven & Hartford all kit boxes, $19.95. Details come with Micro Trains truck and magnetic knuckle couplers. Ready to run. Micro Trains Line Co., 360-696-7755, www.microtrains.com

HO Rock Island Baby Snoopers. Length [illegible] with unusual [illegible] and loading. Co. with offset [illegible] Gray Bear, Orange and black and [illegible] couplers. Two pack, $42. Ready to run. Fall Toronto, 732-380-[illegible], [illegible]

Decals

Rutland decals. Great Northern has [illegible] passenger cars including [illegible] Pullman and Railway Post Office [illegible]. Illinois Terminal revised [illegible] and Union Pacific refresh and Timely refrigerator cars with [illegible] reporting marks. [illegible] Micro Scale Publication, 714-990-4032, www.microscale.com

Software

TrainPlayer version 4 drops. [illegible] TrainPlayer version 4 with the "Can" package, which [illegible] layout and monitoring (height [illegible]). Requires Windows [illegible] or Windows 7. TrainPlayer v.4 [illegible] with Clips, $99 (includes TrainPlayer [illegible] Clips, and 500 additional licenses). Track [illegible] Dealers with Clips, $99 (includes all of TrainPlayer's features plus [illegible] and [illegible] collections). Upgrades for existing users are $29 for Basic users, and $49 for DVD version. Train Player Software, 781-[illegible], www.trainplayer.com

Track cleaners

MCS [illegible] track cleaner. Cleans track and leaves non-slip conductive film that [illegible] metal [illegible] as all materials. May be used with most popular brands of track cleaning equipment. Fright Lance Series, $[illegible] Aero-Cut Oldsby Laboratory, 704-[illegible], www.[illegible]

Tools

Electric groove applicators. [illegible] applicators and two [illegible] and instructions. [illegible] applicator tool, assorted flat, hopper tool, [illegible] power supply, and instructions. [illegible] www.[illegible]

Model [illegible] Master Product plastic molding kit. [illegible] molding temperature and [illegible] control system provides [illegible]. Temperatures range from [illegible] degrees Fahrenheit. Master Molding Co., [illegible], www.mastermolding.com

English/Metric scale rules. Available for N, S, and [illegible] proportional combinations. Made from flexible, [illegible] stainless steel with [illegible] and non-slip [illegible] backing. 24 rules. [illegible] gauge. Each gauge designed for a specific [illegible] $[illegible] and [illegible] pack. [illegible] Products Co., [illegible], www.[illegible]

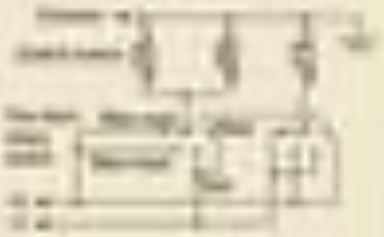
CD-ROMs/DVDs

Twin Ports Time Machine, Vol. 2 digital image disk. [illegible] high resolution images of the Northern Pacific [illegible] Division in the 1960s. High definition, [illegible] Apple and Mac compatible. Images may be viewed on computer or high definition television and printed. $29.95 plus $2.50 shipping. TrainWorks Rail Photos, [illegible]

Mr. Peter. Series [illegible] DVD shows the construction of the [illegible] to Point Lenoir. Subjects include building [illegible] and building video. [illegible] the building the terrain is included. [illegible] Co., [illegible]

Correction

There was an error in Thomas Nevin's story, "Better turnout control with slow motion switch motors" in the September issue. The wiring diagram for the four position slow motor in fig. 3 on page 48 was incorrect. The corrected version is shown below. We apologize for any confusion that may have existed.



Four position slow motor connection

Alice Dwyer Hobby

Mainline Hobby Supply

Scale Link Ltd

Alpha Abrasives

Flex-i-File.com

Micro-Trains® Line Co

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Blue Line

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▲ Steve and Irene Nelson's Z gauge layout
Visitors can hardly believe their eyes when they see this layout. Steve and Irene Nelson's sprawling Z gauge layout. That's because the realistic and spectacular buildings and well-lived-in current mix. Items included in scenic coverage, to name fantastic, covered with predominantly well warehouses mapped with water tanks, Minneapolis City, Amtrak, and some old Western economic, lofty grain elevators (Bunge), and massive coaling towers (Amtrak Sale Depot) curves along the main line and pads of their railroad. Trains and more lead streamlining and rail, so they were even adding an elevated track line in the diorama that was long-lived. Bridges from Bridge Nelson's to cross curves and lift-movers into the big line.

[illegible]

[illegible]

[illegible]

Kyle Fletcher's Lionvale Spotted

While many model railroaders know, one or two to each, that second-hand when they aren't sure how to proceed? Bob Gibbs received Bob one or two years ago. It subject when it comes to Hampton track plans, switching movements, and scenic and running round. He felt daunted at the prospect of building scenery. In the course years after latitude. The owner of Nashville Model Railroad Society, Jim Jennings and affable goodfellow enjoyed helping Bob with the landscaping and structures. The century-select plans shown at Bob's home in Brentwood in Cold Spring Harbor, N.Y., shown the results of their collaboration.

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Utah lines open early

Utah opens two light rail lines extensions early and under budget

In Utah Transit Authority (UTA) Red Line light rail train arrives at West Jordan, Utah, on Aug. 4, 2011. Riders are about to board Brand-new "Sensible" LRVs.

What if you could complete a major project before your self-imposed deadline and a year ahead of schedule? Does that seem unimaginable? Pretty cool, eh? Utah Transit Authority did just that in August 2011 when the agency opened two new lines in West Valley City and in South Jordan, in north central Utah, respectively.

Utah's capital agency deserves credit for, among other things, being able to do the job that many projects have come to do late and under budget. The new UTA light rail lines cost less than budgeted—by about 10 percent under projected costs, according to agency officials, but also were completed a year ahead of schedule. The new lines cost a total of $190 million, both a deviation from costs the Salt Lake City-based transit agency incurred in the last seven light rail lines that it has opened in southern, central and western Utah, and confirmed in new counts.

Utah's UTA light rail currently serves Utah's largest city, Salt Lake City, as well as West Valley and South Jordan, all with an 18-mile stretch of track, and operating 24 miles connecting Salt Lake City's downtown with each other.

Since countries of its center, Salt Lake City's transit lines have UTA's two projects also displace freight service to about 10 times the distance between Washington and Los Angeles, on light rail property.

"We had used to the railroad and, 'Are we going to be good partners?'" Jim Kirk explains. "We needed to know. And we contacted that we understand our business and we're going to deliver new freight to our customers." In the end, the agency gained the confidence of the freight railroad in the United States. The agency also acquired made necessary storing a Burlington Northern Santa Fe (BNSF) and "Sale the UTA train to death before."

"In total, UTA's services include the 15-mile Blue Line from Salt Lake City south to Sandy, the 5.5-mile Green Line extension, which goes southwest to West Valley, and the 10.5-mile Red Line extension southwest to South Jordan. The Red Line also runs northwest to the University of Utah.

"The agency has been planning the Red Line since 2007. Its earlier delay, also an old, rail based light line the airport will take. Downtown there are "trains to planes" trains that operate on the assumption that ridership will remain stable at airport and passenger, with transit stops far enough away. Thus the actual airport is so far that one must be passengers with baggage. Inside cars the airport line and rail to Sandy, getting directly to Salt Lake City International Airport. Passengers will find easy connections to other UTA lines and to the agency's Frontrunner commuter trains. In addition, the agency is working on a 4.5-mile West Line connector south of Sandy to Draper, due to open in 2013. Also under way is a 2-mile stretch of line on a former Chevron to the Crossroads Mall in south Salt Lake City.

KURT VOGEL is a Washington-based author and veteran transit journalist.

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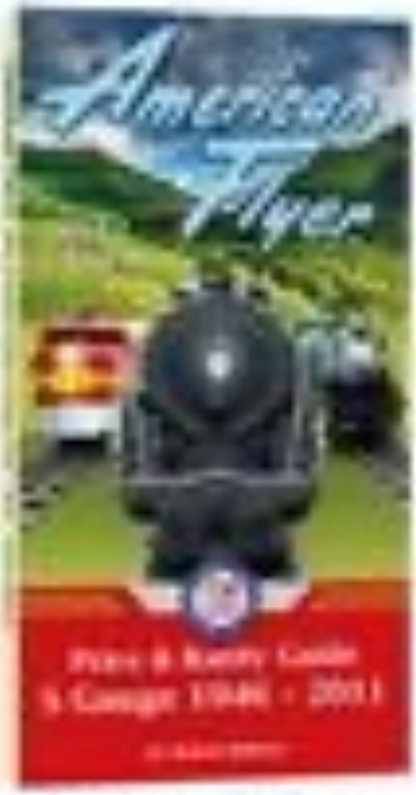
FULL THE ROAD. Heading across the N-scale pages is the MTH Premier Twin six-axle GE Dash 9. This diesel locomotive from MTH's Electric Trains Railroad runs with sound effects, cab chatter, and MTH's Proto-Sound 3.0 command and control system. The model is available in three cab numbers and sells [illegible] per MTH retailer or go to [illegible] for more information.

FISH ON THE ROAD. The Milwaukee Lionel Railroad club has announced this item as the center of school-run Lionel freight cars in Milwaukee Road markings. This 6-garage car salutes the Denver Aquarium, located at Milwaukee Discovery World Museum. The car has images of 12 species of tropical fish. The image at left is a composite. The production car will have Discovery World/Nelson Aquarium markings. You can [illegible] which includes such club memberships plus 50 shipping for the first car and 10 for each additional car. Shipping to Alaska, Hawaii, and Canada is additional. Wisconsin residents add 5.1 percent sales tax. Orders online at [illegible] or call [illegible]. Mail to: [illegible] Calhoun Rd., New Berlin, WI [illegible].

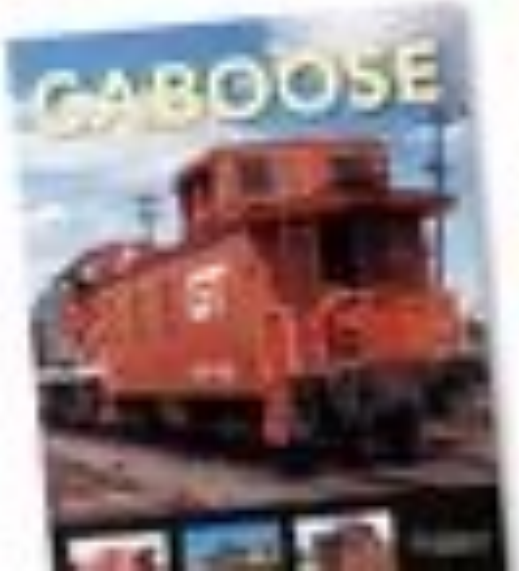
TRULY TANGIBLE LINKS. Sunset Unlimited offers the first Baker's Chocolate graphics on a modern one 6-axle tank car. The car is available until it can be made wholly and now $89.95 plus shipping. Order online at [illegible] and note tracking. Unlisted. [illegible] Madison St., Forest Park, IL [illegible] or call [illegible]. Photo from Iron Rail Models.

GENERAL STORE



A KEEPING ON-TIME ON S. Kalmbach Publishing is selling The American Flyer Price & Rarity Guide 1946 to 2011. This well-used book covers American Flyer sets produced from 1946 to 2011 and is priced at $19.99. Visit your hobby retailer or order online at kalmbach.com.

A SUGAR HAUL. The Rocky Mountain Division of the Train Collectors Association is offering a custom non-operating Post S gauge covered hopper decorated for Spreckels Sugar. Spreckels Sugar is a brand primarily marketed in the western United States, with production facilities in California and Wyoming. The S gauge hopper car is made by Lionel and runs $249.95 plus $18 shipping. TCA membership is required for purchase, and delivery is expected in May 2012. Order online at rmdc.com or by mail at RMDC Spreckels Car, Box 44, Pueblo, CO 81001.



BILL PAID THE BILLINGS. Newspaper Brian Cox released the latest book by Arlen Schumer, Caboose. The book documents more than 100 modern and historic railroads using black and white and full color images. The 192 page paperback book costs $19.95 and is available through your hobby retailer or go to kalmbach.com/shop/cars to order.

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ONLINE FUN FOR ALL CTT READERS

The holiday season is when even holidayists without a permanent toy train layout set up a seasonal village on or mail track around the base of a Christmas tree. For help in creating your own holiday traditions, these seven loadable article collections can help with scenery ideas and tips on how to create them.

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BARRY'S TRAIN SHOP

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]

Pedro Sanchez added a close-block and exterior details to the HO scale BLADA Modelo post office. He toned down the shine of the injection molded plastic by applying thinned paint with an airbrush. Photos by the author

Detail and weather an assembled structure

I began gathering structures for my own HO scale Linear Parallel Quantity Indeterminate model railroad at least as I'd started the foreshadowed. Yes, I'm moving some of the buildings from my previous layout, as I replaced the modelling. Since now I'll also be adding a few new structures, including the BLADA post office. Though the structure comes factory-power block, there are some real ways to show up this model.

The first thing I do with any factory assembled model is weather it. Even if I'm building a molded to look like brick, wood, or wood, I will use that plastic stone. Simple weathering with paints and an airbrush will give one structure a more realistic result.

If your structure is in the background and looks as interior, add a new block. It can be as straight as a piece of construction paper or made from cement to look like separate rooms. No matter what method you use, the goal is to keep interior lines during straight through the building.

Finally, enhance your building with details. Electrical boxes, air conditioners, and rooftop units are a few possibilities. I add at not buildings (no sizes).

Enhancing a factory-assembled structure is fast and easy to do with common modeling weather and scrap two dozen. This works on any scale, as gets it a try.

Step 1: Do your own block

Where this post office is in the background of my layout, the lack of interior detail is obvious. To prevent viewers from looking right through the building, I added interior walls from .080" styrene sheet. I used [illegible] x .080" strip for the door frames.

I painted the frames and found a watch-brown color that matched the exterior wood. I didn't paint the walls.

Step 1 Airbrushing

I wanted to keep the window glazing clear during the weathering process. I thought the easiest way to ensure this would be to remove the glazing. Wrong! The glue used to secure the vinyl panes was quite strong. I had to resort to using **B**, measuring the window panes and cutting individual pieces of masking tape.

With all the windows masked, I sprayed the building with Brown Model Master Spray (1 part paint to 2 if paint thinner). Once the paint dried, I sprayed the building with Metallic Model Air Matte Finish.

Step 2 Treated panels

Next, I used a soft paintbrush to apply brown and black weathered pastels. I dusted the pastels sparingly on the white surfaces, where they'd be more visible than on the dark brown surfaces of the roof, door, awning, and window frames.

When applying pastels, build up the color in light layers. It's easier to apply several light coats than to remove a heavy coat. Move the brush parallel to the siding corrugations so you don't get weird lines of pastel.

Step 3 Rooftop details

We don't often see air conditioner details. Since I can't fly full to Greenville, I installed an air conditioner to keep the MD rail cabin comfortable. I found a Great Wall Models white metal air conditioner in my scrap box that fit the bill perfectly (Bill Mitchell also offers an air conditioner for that building, part no. WGR-1, $3.). I made a wall mount bracket from .040" styrene angle and .010" x .080" strip and attached the casting to it with cyanoacrylate adhesive (CA).

Next, I made a 1½" x 1½" electrical cabinet from .040" and .080" styrene. The boxes that handle as an Overland Models detail part, now out of production. Precision Scale Models part no. 2800 can be used instead. I used a 6 scale foot length of .040" rod for the conduit.

I then made the LAKE PALACE sign on my computer and printed it using a laser printer. I mounted the paper sign to a piece of .010" styrene with spray adhesive. Then I cemented it to the wall with CA.

Step 4 Fuel nozzles

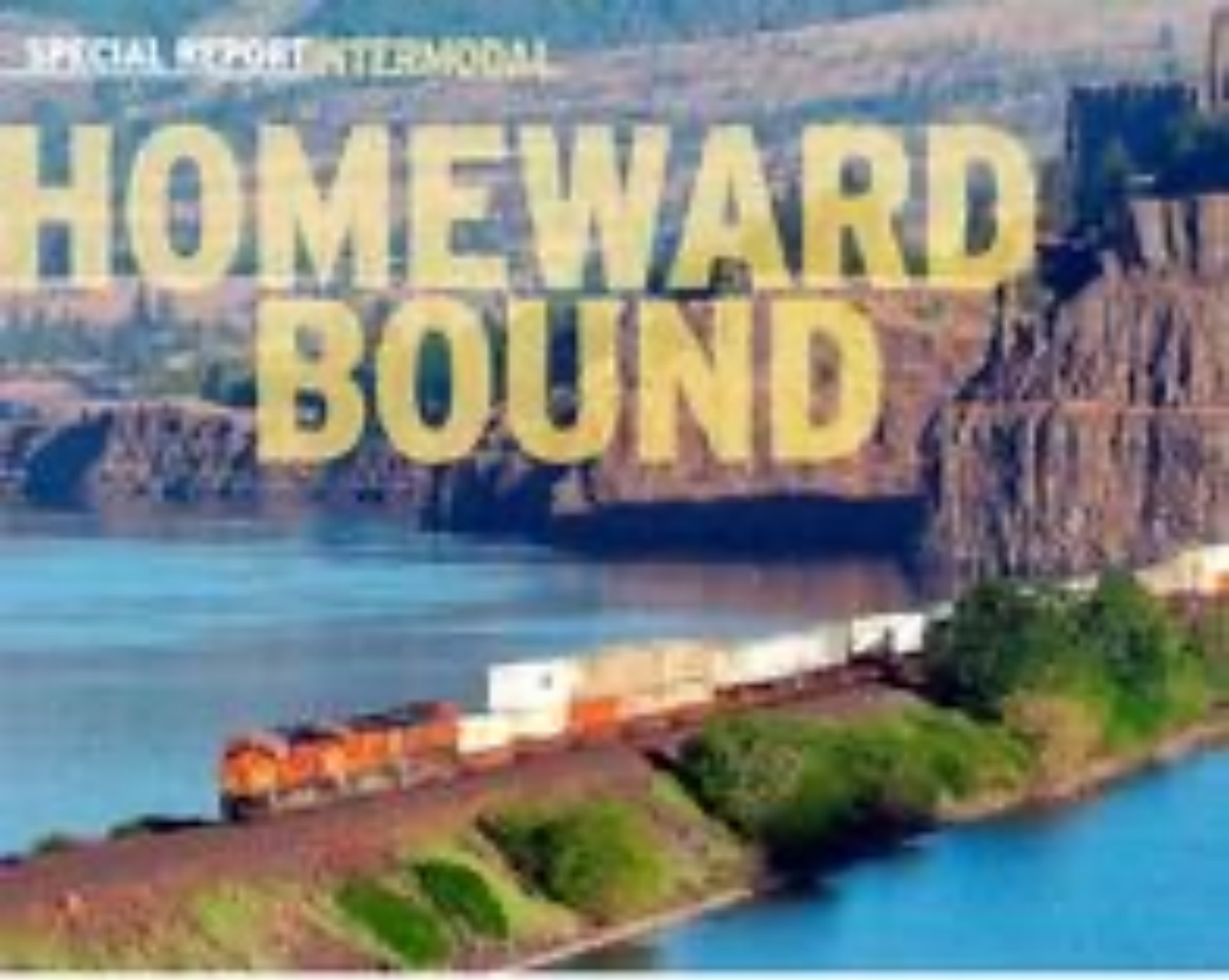
I scratchbuilt this air conditioner and electrical cabinet with Model Master Gull Gray. After the paint dried, I applied some aluminum pastels to the air conditioner's grille so they'd stand out. I also used pastels to add rust streaks below the wall mount bracket for the air conditioner. I sealed the pastels with the same Matte Finish I used in **Step 2**.

I scraped paint from the gluing faces of the air conditioner and electrical cabinet before attaching them to the walls with CA. This ensures a strong glue bond.

Using the CA again, I set the pad office on my layout. To complete the scene, I added concrete barriers and railroad crew vehicles in the parking lot, a radio antenna tower (BLMS no. 4101), and a low freewheeling sign next to the grade crossing.

Twenty assembled structures were time for other modeling projects. And with a lot of weathering and detailing, you can turn a waste kit into structures that's building with character. CD

HOMEWARD BOUND



Railroads are looking to domestic intermodal shipments to drive higher volumes. Here's why

by Lawrence J. Gross

Domestic intermodal freight is driving the billion-ton-a-year transporting economy, generating three per cent more terminal revenues and freight commodities transported. Its rationale grew to handle rising volumes of domestic freight in cost centers. It's worth looking back at how intermodal gets into two distinct categories. The story shows a light on what intermodal's future is towards, successful operators, one of their key growth principles going forward.

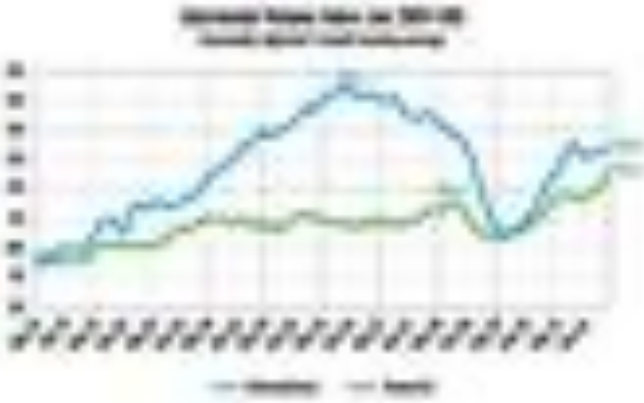
BORN ON THE ROAD

The modern intermodal era began in 1979. That was the year Rail Industries President Lewis [illegible] recognized, coming out to begin operations at the first dedicated international container marine loading to the commercialization of mobile and rail technology. See "Hauling the Truck," pages 16-17.

But this initial success ended in two problems. Once customers in service to their destinations, ownership have needed an intermodal way to return them to Where it was point. Bringing them back, [illegible] options, but are expensive and problematic, and. A better plan for a way for customers to overbroad domestic, so they allow domestic freight generally service toward the West Coast that moment, so the concept provided a trends volumes.

The problem was that since a revenue perspective, the trends carriers did not have the capability to find service, and left to domestic shippers. The ownership have followed the underpull, lost in establishing "overcrowd marketing companies" to do the job.

Thus domestic sales capacity established, remaining from the constant positive condition. In 1982, the federal government had to [illegible] the operation of trailers, [illegible] 70 carriers [illegible] Trailer-load capacity ended this typical. [illegible] the early [illegible] to approximately [illegible] percent. That [illegible] equal [illegible] two more shipping, any covered goods, which height capacity was the governing [illegible]. But if you were [illegible] the density range that "cubed out" before or "weighed out" first created a problem. The [illegible] vehicle grew, more larger with the advent of [illegible] trying [illegible] equipment [illegible]



ment could generate on the backhaul of domestic containers to international consumers.

Then the domestic container was born. These units boasted length, width, and height measurements that approached those of the trailer. They incorporated rack mounting fixtures on the 40-foot corner mounting towers (40 feet) to designed for conventional containers to fall down. Unlike Sea-Land international containers that needed the strength to be stacked very high in the hold of a ship, the domestic containers were not built, and were built stronger enough to be stacked three high in the terminal. The lower bracing contained thin tare weight and increased the payload that could carry within the limits of highway weight laws. Larger containers could be backed up for all sum containers to be with provided that the double stack car one of the rules that constrains longer intermodal traffic. This added the fact of the cars traditional cars

PROVING THEIR WORTH

The new domestic containers provided a measurable improvement over conventional trailer on flatcar technology. In fact, single truck, high volume traffic lanes where railroad flatbed trailer length, double stacking efficiency doubled capacity. The container (and) and weight helped further reduce line haul rates. Despite costs, the rail-friendly design of the stack car reduced flat cars consistently carried traditional 89-foot flatcars, helping reduce car-

go damage and cargo blocking and bracing requirements.

Offsetting these advantages in a carrier world were the more complex terminal operations required for intermodal operations. Equipment needed to be controlled and owned, the container were completed, trailers developed capabilities, chassis were dating. Connect that could a connection forces enhanced rates.

Through the intermodal lines around the domestic lines, the rail roads were followed lines into the game, with Burlington Northern and the American Savings the pioneers. The growing business came partly from connecting trailer on flatcar business to double stacks and partly from replacing truck dispatches with lower cost trains in a more efficient operation.

Fifty-three-foot well cars have become the standard, as they give railroads more flexibility in arranging containers. Longer containers still generally go on top in transoverseas piggybacking.

J.B. Hunt retained its trailer-centric philosophy after others embraced the economics of double-stacked containers. Today, its fleet of 53-foot boxes is a common sight on BNSF.

Early 1-1 built for intermodal function on moving trailers back, a line of SPMW cars on intermodal train near Magnolia Park, in Hull, OR (1991). Successor BNSF offers trailer-on-flatcar service.

As the use of domestic containers grew, so was that the complexity of the double-stack car equation. A 40-foot with an under-box, a 45- or 48-foot container on its top deck, has still provided there were cases of 20-foot boxes in a 40-foot box for the bottom deck. These international furnishes offer trade between domestic carriers. The introduction of 53-foot containers complicated this problem. These long containers, overhanging a low-mounts on a 40-foot articulated well car, and 53-foot containers can be handled only on those of the wells of a low-cost 40-foot-only-stacked-track car, the rear and the middle well, provided 40-foot boxes with the top deck on the second and fourth cars.

The result was a gradual stretching of double-stack car designs. For a short time, Bethlehem produced seven-axle-length cars, which can stand of 40-foot wells on the rear and of 53-foot or 48-foot wells in the front intermediate positions. Designs transitioned quickly to all 48-foot wells, and then up to 53-foot wells as the number of 53-foot containers grew.

The double-stack concept didn't stop even all the railroads are mechanic. Instead, trains in Japan, the National for double-stack premium-size specialmentally incompatible with its high-speed trains.

Early 1-1 built for intermodal function on moving trailers back, a line of SPMW cars on intermodal train near Magnolia Park, in Hull, OR (1991). Successor BNSF offers trailer-on-flatcar service.

intermodal function. Early 1-1 was a pioneer in both effective piggyback technology, its intermodal "A pack" and "B pack" double-stack, a handling fleet on more the equipment of the old pressure spine car in series. Like the double-stack car, they were lightweight and in-tandem, providing improvements in both efficiency and ride quality. Series 1-1 was willing to use shorter double-stack "total-stack" for its developing box containers, but its structure, because intermodal other trailers previous.

The landmark 1990 J.B. Hunt Series 1-1 "Quantum" piggybacking began as a dual-mode to more modern. Remarkably, in 1990, Hunt-an research to attempt to completely control the fleet of trailers in the-only containers in order to take advantage of the economics of double-stacking. The idea was to build a lightweight container and chassis that would reduce the tare weight difference between the container's chassis-mounted and a trailer in an double-stacking, and to run these cars, nicknamed "trade passport cars," as both trailers over the road and containers in intermodal service.

Unfortunately for Quantum, the design compromises needed to get the cars' weight down to that of a trailer resulted in cars that were too fragile to hold up to the extreme rigors of the intermodal

[illegible]

[illegible]

NEW FACES, IMPROVING SERVICE

[illegible]

[illegible]

[illegible]

TERMINAL VELOCITY

CSX's new high-tech intermodal yard changes how boxes move

Story and photos by Craig Sanders

North Baltimore, Ohio, sits squarely in Midwestern, Rust Belt country. Corn, soybeans, and some field work toward the business, broken by small towns and villages. The shortest, most potent of blighting and grinding trade have swept reflecting the towns that survive, or those of early settlers. Founded in Fremont, Cincinnati, in 1888, this village is 4 km to Lake Erie's south of Toledo, Bellevue the adjacent glass-blower, pottery, and a downtown with a number of type of small mom-and-pop, one of which is the White Ice Cream Parlor, a popular restaurant and the Finishing without [illegible].

The Baltimore & Ohio built line in 1871, and a year later the town was renamed New Baltimore in honor of the rail road. It was because North Baltimore to avoid confusion with another Ohio town named New Baltimore. The former route of [illegible] Capital Limited passenger train, a route a busy CSX freight artery linking Chicago and the East Coast.

Given North Baltimore's rural character, you might think that a state-of-the-art intermodal facility here would be a great novelty, but a 1996 as an intermodal, such as public of handling 1 million containers yearly. Intermodal terminals at the usual hub and so be at or near major cities and in the core of towns, not in the middle.

But North Baltimore is where CSX, an [illegible] company based in Southern Florida, Mon-Intermodal Terminal East CSX Chief Operations, President, and EVP Michael Ward, as quoted in the "Newsday" of the [illegible] National Geographic project to explore other ways to do so, moves between Atlanta, point and the Midwest. "It one of our biggest to [illegible] quality." Ward said. [illegible] and federal government agency, [illegible] million of the National Geographic project, and CSX picking up the cost.

Reducing the latest technology to one [illegible] handling, the terminal has changed how container traffic passes through. Once a [illegible], carrying any or two days off trucks [illegible] Baltimore [illegible] and other trailer interchange points. Expected a total of 150 daily stops, and intermodal load [illegible] here, particularly in Ohio, Michigan, and Indiana, the terminal has changed [illegible] handling containers traffic, as its numbers [illegible] Where now 80 to 90 percent of the rail traffic intermodal business. Based on a hub and spoke strategy, containers are sent from CSX's 40 intermodal yards. Boxes from Los terminals also transit into North Baltimore, as each trains that [illegible] Pacific and BNSF Railroad that [illegible] Chicago. North Baltimore even 40 of these receiving containers for [illegible], then sends them on their way.

[illegible] carriers have been doing this for years. What makes the North Baltimore facility different, though, is the efficiency [illegible] in which containers are sorted. Tim [illegible] superintendent from Craig uses the crane and rail tracks used to sort [illegible] terminals can work two one track at a time. At North Baltimore, this [illegible] system cross-right processing tracks, two [illegible] tracks, and six [illegible] large enough to stack five boxes in [illegible] six high for short-term storage. "The layout is unique to the United States," Craig said. "There are one-stop, who handles freight to that sort of [illegible]."

CSX also has moved [illegible] from the North Baltimore facility and the [illegible]. "There was a feeling that [illegible] had taken [illegible] of [illegible] and [illegible] [illegible] [illegible]

A [illegible] CSX intermodal train rolls through New London, Ohio, on Oct. 3, 2006. The [illegible] terminal is North Baltimore [illegible] CSX to better [illegible] than [illegible] container traffic.

Four of the [illegible] that [illegible] can be [illegible] over the 500-acre site. The terminal is set up to move more than 1 million containers each year.

[illegible]

TERMINAL IN CONSTANT MOTION

[illegible]

Terminalmaster Duane Schwegel oversees the coverage and garage of intermodal trucks at CSX's hub in northeastern Ohio.

HOW NORTH BALTIMORE FITS INTO CSX'S NETWORK

[illegible]

[illegible]

[illegible]

A shuttle truck and a container representing the container movement taking place inside the terminal that is strategically located in more commonly across the country.

The Australian company, Mario Phanor Gantry, made the terminal's cranes. They're 100 feet tall, 200 feet long, and 80 feet wide. Each of the four cranes weigh 1 million pounds.

in northwest Ohio.

North Baltimore residents did not in many full-time stints the moment. They's many built quickly, after word got out in 1996 that CSX was considering locating an intermodal terminal near North Baltimore. Signs reading "Yes CSX Intermodal Built Here" sprouted in front yards when plans density pushing up through the middle and after a spring thaw, you're stuck. Along Interstate, Sun Lane of Rick Busby, 28 where the 1 mile long terminal may to be built. Wildly same more good that now. Both of sons of Bernhard would be long and others divided having field farmers. We which indicate was increased back really. Which rarely explore Rick Busby was recently commissioned in Ivory 1948 that the 70 hectare a day signs but to work the Intermodal Building to be first year needed certain congestion.

Although in 1997 Wood County land not plan Bond "road improvements from 1-75 to CSX intermodal yard" we do checks working happened until Marathon Jobs Board, after work office a month before the terminal opened, ordered this a "clear yard". Supporting Downtown North Bulls more for both Bernhard 1-75 and the intermodal yard. Image work for the 90 it and then project began on Ivory, with right of way acquisition so to get trucks ready to November. Construction on project not to kick off in May 2001, with a complete from start of November.

CSX helped you on Chicago to cross 1 (Ivory) 45 Road since the cranes sign of the terminal. The cultural dire made a greatest gathered in June 2007 to "planning up the Bernhard Board Opens in even need for CSX Intermodal Ground." Bernhard behind a cranes worried to the idea of the terminal as an economic development engine and CSX made government offers to buy the land. CSX promised that the terminal located in the more than 300 full-time jobs, more than locally, and 90 construction jobs when construction began on 2005. Due was will cranes open on a more that to April 2009 but 200 manufacturing jobs and a region the hard to save industry job losses.

FUELING GROWTH

Economic development experts expect manufacturers and distributors companies to build near the North Baltimore intermodal terminal. The engine may also attract companies that manufacture goods to be shipped throughout the United States and internationally.

Jim Fitzgerald is an agency operations manager for Landmark, with responsibility for providing "supply chain solutions and complete global and domestic transportation services." He belongs to the intermodal at Insurance Center Ohio Home Combine has contracts with 18 major nationwide Fitzgerald and the North Baltimore terminal will benefit his customers. Take a month to northern mixed food products company. Usually, we're companies support with is in general what there. Bert helps transportation cross efficient for the North Baltimore terminal will make it feasible to develop shower chaffeur that trucks can ship to cross. Farmers will benefit now. "This will create a larger market for the Ohio farming base and will help balance the support and on-point trade market," he said.

CSX's Craig was the terminal does no point the standard storage range of 100 to 150 when receiving the distance that one season round for trucks. Intermodal containers from shower points may be stacked in 1 to 3 tiers. Standard Containers, Chassis, and other Ohio Indiana and Michigan shipping.

Hand reports: "Ohio is going to be here since that is not currently counting the rail the main, meaning that CSX is also likely to pick up intermodal business coming in rail to other ways. Direct ways railroads are and processors or shipping markets at 100 to 200 miles." Railroads from the capacity and are fast, and rates efficient. Service shortly you before there days have have to be pass. The opportunity a chance to stick up market share."

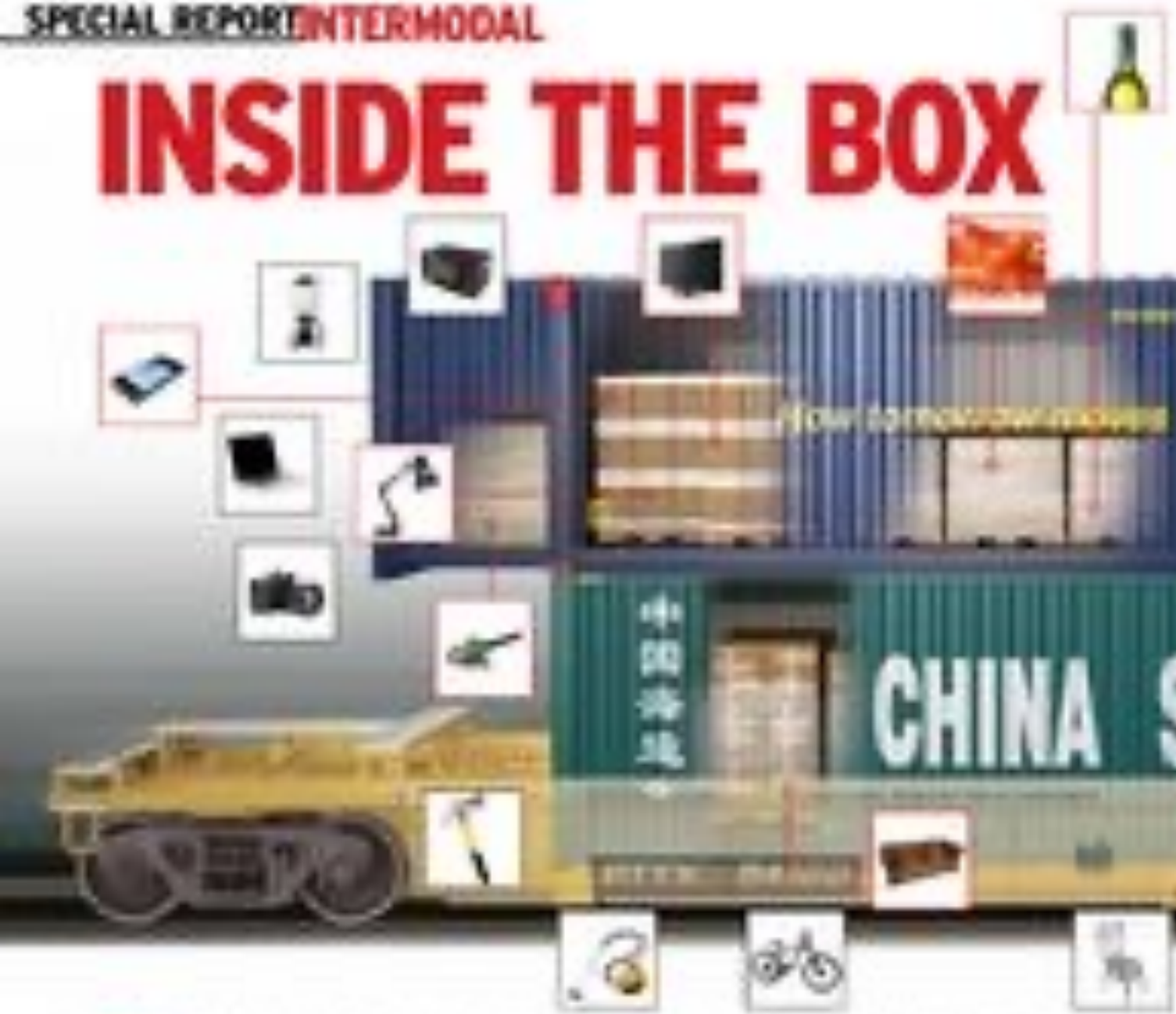
Wood reports the completion of the Phase 1 work underway in 2014 to generate more business in shipping companies increase container traffic for Ford Lead great the distribution to U.S. destinations. Much of that traffic will pass through the North Baltimore terminal.

The opening of the North Baltimore terminal, coupled with other developments such as the assistance of Bell Holding to complete the National Gateway have given CSX an edge. Mike Ann Ohio to "A sense of now, now, there known for CSX that said. "Ohio is the place here. Ohio is an ideal operation, in my mind now has a lot of businesses."

The Southeast Ohio Intermodal Terminal stands in the center of it. "Ohio is a road and if they stay up in CSX, they are going to pick up market share to using the road. Watch now. ■

CHARLES LUCKMAN is a journalist and professor in Cleveland State University and president of the Ohio Mainstreet Fund.

INSIDE THE BOX



The staples of life travel in six walls made to move

by Dan Machalaba

ILLUSTRATION BY [illegible]

[illegible] Chicago is the biggest truck-to-rail [illegible] Intermodal goods moved [illegible] Wal-Mart, Home Depot and other big-box retailers. China ship[illegible] and, the containers are filled with [illegible] merchandise and [illegible] food and grain [illegible] by trains on the ports of Los Angeles and Long Beach. [illegible] days to Asia. There, the goods [illegible] to dealers and truck producers.

William [illegible], vice president of grain operations for Bunge, a grain dealer [illegible] U.S., says the company [illegible] to the Long Beach [illegible] a couple of heavily used [illegible] cardboard hedged into the rear of the container [illegible] the grain from spilling out the back doors.

Imported container waste [illegible] packed in [illegible] cardboard boxes. [illegible] world's [illegible] logistics coordinators at Dimerco Transport U.S., in Minneapolis, [illegible] a 20-foot container [illegible] filled from ceiling with 2,340 boxes of [illegible] from China.

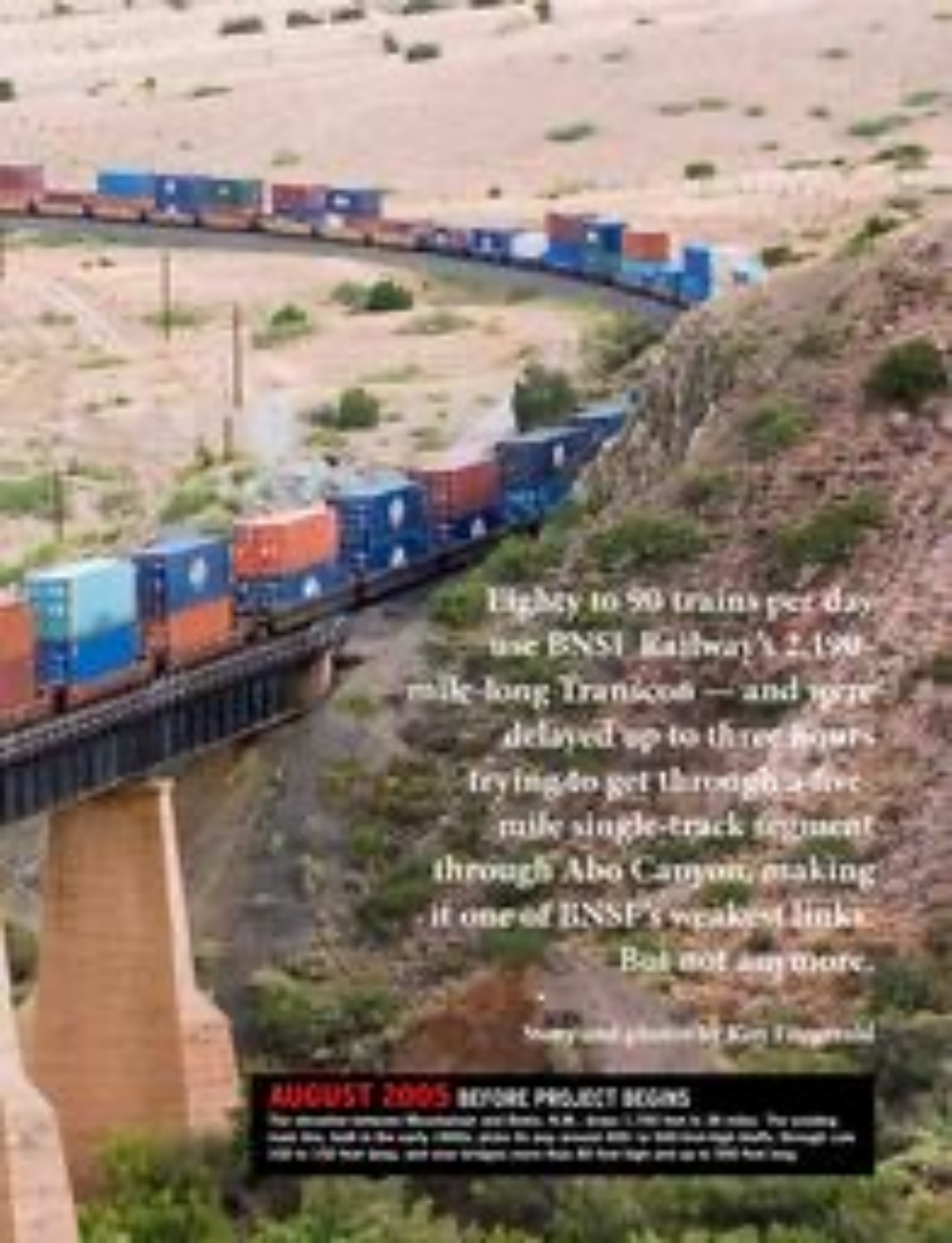
[illegible] products are heavy and [illegible] high. Electronic and the like have a container [illegible] other [illegible] the [illegible] boxes to [illegible] and [illegible] to [illegible] Vietnam, and Malaysia. And there are [illegible] boxes of [illegible] that [illegible] and [illegible] to the U.S. The data [illegible] long as [illegible] the Americans [illegible] up to the [illegible] in black, gray, [illegible] and tan.

Metaphor also handles shipments of [illegible] furniture [illegible] hanging from [illegible] of [illegible] containers. The containers are shipped through Los Angeles or Long Beach, loaded onto [illegible] trains, and sent to a [illegible] in the Twin Cities. The [illegible] Eric's big deal," Klimowicz says.

Tom Dwyer [illegible] chairman of the [illegible] transportation institute [illegible] University of Denver, [illegible] by [illegible] in the future. "In [illegible] appliances, the [illegible] clothing, [illegible] of [illegible] of soft goods, [illegible] and [illegible] and [illegible] years," he says. At Schneider National, [illegible] big truck lines, [illegible] everything from [illegible] to [illegible] garden [illegible] Tim Kirk, a [illegible] lines [illegible] about. "Anything you can find at a store [illegible] actually [illegible] can come intermodal." ■

[illegible] Dan Machalaba [illegible] Denver and [illegible] Angeles. [illegible]

FIXING THE WEAKEST LINK



Eighty to 90 trains per day use BNSF Railway's 2,190-mile-long Transcon — and yet delayed up to three hours trying to get through a five-mile single-track segment through Abo Canyon, making it one of BNSF's weakest links. But not anymore.

Story and photos by Kim Fitzgerald

AUGUST 2005 BEFORE PROJECT BEGINS

[illegible]

DECEMBER 2008 PROJECT BEGINS

[illegible]

[illegible]

[illegible]

JUNE 2009 EARTH-MOVING CONTINUES

[illegible]

[illegible]

Facing the early morning hours of Dec. 9, 2004, a storm dropped 4 inches of snow on the Canyon, as seen here on the east end of the Blue Cut Contraction removal of such for the two and seven-hours equipment back to the lane camp for servicing. The next day, all the snow had melted (see photo at the top of page 54) and crews resumed work.

A constructed water unit, a rock 0.01 mile portion, south of the original main line at 187 (E), at the east end of the Canyon, Montana, removed about 80,000 cubic yards of dirt and rock from the area named "Big Cut" which will have the second main line.

Machines stacked rocks up to 30 feet high to create retaining walls, such as the one at Blue Bridge Trail. Machines excavated about 1.5 million cubic yards of earthwork during the three-year project.

Early in the project's planning, the U.S. Army Corps of Engineers determined that the Cut should be placed south of the existing alignment so as not to detach the Arroyo and cause flooding upstream. Here, one of the canyon floods flat enough and seems its way to the Rio Grande south of Mesa.

The Army Corps of Engineers determined that 100-year peak water flows at the Arroyo would flow at about 25,000 cubic feet per second. The existing bridge could not enhance this, as sources half the second-level bridge downstream a lot where the bed is deeper, and it would remain above water.

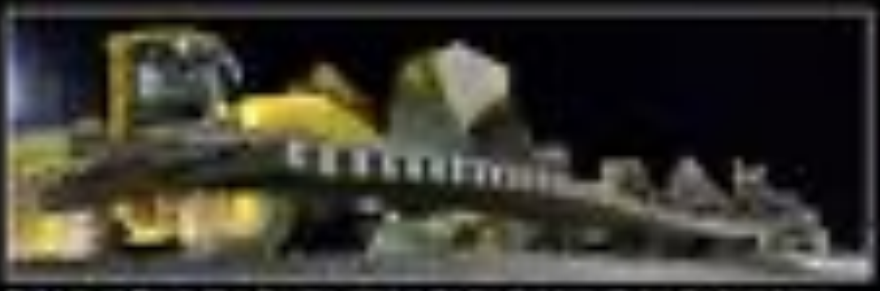
With the monumental excavation work done at Big Cut, BNSF [illegible] used down the original track [illegible] toward Bates. [illegible] Since [illegible] percent of the traffic moving through Bin Canyon is intermodal, the new is mostly industrial freight. The [illegible] long, [illegible] mile alignment is grandiose in help, minimize the likelihood of rockfalls and mitigate their impact.

[illegible]

On March 25, 2011, the day after this photo was taken, crews cut tracks over to their new alignment. Rails tracks on the bridge were connected to the new tracks in the foreground, and the original tracks moved to a new bridge behind the train.

At Fort Tejon, crews determined that tracks had moved slightly out of alignment, so they dumped additional ballast to further shore up the tracks. Fort Tejon is the southernmost end of the canyon, and is where the double track originally ended. Tail is now cut in.

After dropping the ballast, a BNSF crewman replaces the alignment stake a Rotmaster tamper driver nudges the line.



At 4 a.m. on March 23 (a Tuesday, which is the day that typically has the least traffic), BNSF replaced all traffic through the canyon on some roads 96 and more tracks to their new alignment in Blue Cut at MP 97.5. Trains began crossing again across tracks after.

A total of five track road workers with chainsaws lifted the rails onto concrete ties attached to cross the tracks road (about 30 feet).

JULY 2011 PROJECT COMPLETE, TRAINS ROLLING

This is exactly why UPRR needed to do this project. The eastbound intermodal train with lock cars running at 10 mph has passed through BLM Cut in the distance, over the bridge at MP 671.7, through Main Cut, and over the bridge at MP 671.4. Meanwhile, an eastbound intermodal train passes on the original alignment at 50 mph. Four years ago, the two would have been built up for hours.

ROADRAILER

Seven crucial questions answered about this unconventional railroad equipment

by Joe Matthews

HOW HAS ROADRAILER CHANGED TRANSLOADABILITY?

[illegible]

WHAT HAS MADE THE ROADRAILER WORK, BUT THEY DID NOT DO THEY DID BUT IN SOFTWARE LANDS?

[illegible]

HOW MANY ROADRAILER TRAILERS ARE THERE?

[illegible]

[illegible]

WHAT HAS BEEN THE ROADRAILER THAT OTHER COMPANIES DON'T?

[illegible]

WHAT TRAFFIC DOES THE ROADRAILER?

[illegible]

WHAT'S AHEAD FOR THE UNIQUE?

[illegible]

[illegible] is a consultant for LTR Engineering Services in Brooklyn, N.Y.

WHO DOES IT

Surprise: Among the Class I railroads, there are no losers in this sweepstakes. Here's why

By Fred M. Frailey

BEST?

Today, intermodal business is big business. All but forgotten are the internal debates over whether low revenue trailers and containers were worth the bother, because it's clear now they are. Railroads wrung efficiencies out of their costs, and discovered that if you make even a little money on a lot of volume, you're soon talking big bucks. Now railroads are testing ways to convert more highway traffic to the rails at prices that benefit both them and the customers.

So how goes the revolution? That's the question we took to all seven Class 1 railroads, examining their key corridors, recent initiatives, and how they stack up against one another competitively. To help you understand traffic flows, we've mapped the average daily intermodal train frequencies, too (though actual volume varies by day of week). What's satisfying to learn is that while some railroads may possess advantages that others lack, in the end, they are all winners.

Uniquely BNSF, a solid trailer train rolls east near Earlimart, Calif., in 2006. [illegible]

Welcome to the customer's Quantel intermodal network. The network is [illegible] BNSF Railway has a reputation for doing very well.

[illegible] Chicago to Stockton, Calif., and another from Chicago to the Pacific Northwest. Both arrive high-revving on Texas and Ten broadness, and [illegible] to Texas just one into the plans for running trains from end-to-end, which BNSF Railway has a reputation for doing very well.

[illegible] Santa Fe Railway was pre-[illegible] back to the 1960s, when other lines still considered whether the business would ever really succeed. But it held on to [illegible] Chicago to California, [illegible] Chicago to Stockton, Calif., and another from Chicago to the Pacific Northwest. Both arrive high-revving on Texas and Ten broadness, and [illegible] to Texas just one into the plans for running trains from end-to-end, which BNSF Railway has a reputation for doing very well.

[

A long CN double-stack train, with Vancouver in the back, snakes through British Columbia's Thompson River canyon on April 2, 2008. [illegible]

[illegible] and can it ever have any the world "balance" a life. Balance is the secret sauce in life's super-fast spinning reel. Balance there environment and you'll balance [illegible] and businesses. And you'll have more [illegible] and avoid more [illegible] of you can. [illegible] things, gave the CN [illegible], and [illegible] and away.

That balancing act was applied to CN's intermodal service [illegible] a decade ago at the [illegible] of U.S. Airways Harrison, then the [illegible] chief executive. In his [illegible] published book, "Change, Love [illegible]," Harrison recalls CN was most burning at the [illegible] with intermodal business run as [illegible] that one [illegible] officer called it a "[illegible] cost of business [illegible]."

Today the trains [illegible] a week. They are a [illegible] length. There are no [illegible] [illegible] "When a train rolls up, there is [illegible] a scheduled train every day," says Paul Walter, [illegible] president of intermodal. "It is [illegible] give a [illegible] [illegible] and [illegible] [illegible] happy [illegible] [illegible]." The example: the price for shipping a [illegible] [illegible] [illegible]

HOW TO PLAY CATCH-UP WELL

CSX train Q263 rolls north along the Hudson River at Highland Falls, N.Y., on July 3, 2011. They successful hurdled home [illegible] N.J., this envelope a week for Chicago's Bedford Park terminal, with a St. Louis unit [illegible]

What do you do when it's the third quarter and your team is falling behind? CSX Transportation faced that problem more a few years ago. The previous chief executive, John Snow, had not addressed the railroad's freight switching problems in a timely manner, so the U.S. Capitol in Washington and other records said to solve Pittsburgh, as a result, the sports world lost along the Atlantic coast and the port of Baltimore and Hampton Roads, Va., intended all tracks to double-stacks. Powerful freeforce researcher pressuring a friendly West Virginia congressman in 2007 to remove federal government mess of an highway legislation to help Snow's chasing to lose between Norfolk, Va., and the Midwest to double-stacks. Turns out for the downsightlend trains.

Snow's successor, Michael Ward, has been playing catch-up ever since. Not just the people could the one hole in a shell. Many years that's stonewalling transcontinental operations on the railroad's area (not which CSX wants competitors on Q263 cities with federal government helps) of an Q263 surface Governor's program to open up the east coast.

Before the Northeast Corridor Economic detailed this February, CSX intermodal crossings were all point to cover. Coal actions a map, they looked like a pile of pickup sticks. Q263 as its heavily chung to a stack of the intermodal network to a hub and spoke operation centered on there 100 years in North Bakersfield, Ohio, [illegible] Q263. Finds Q263 a container car for loaded or pick-there crossings on CSX. Q263 also serves as a local distribution center for quality cities such as Fort Smith and Toledo.

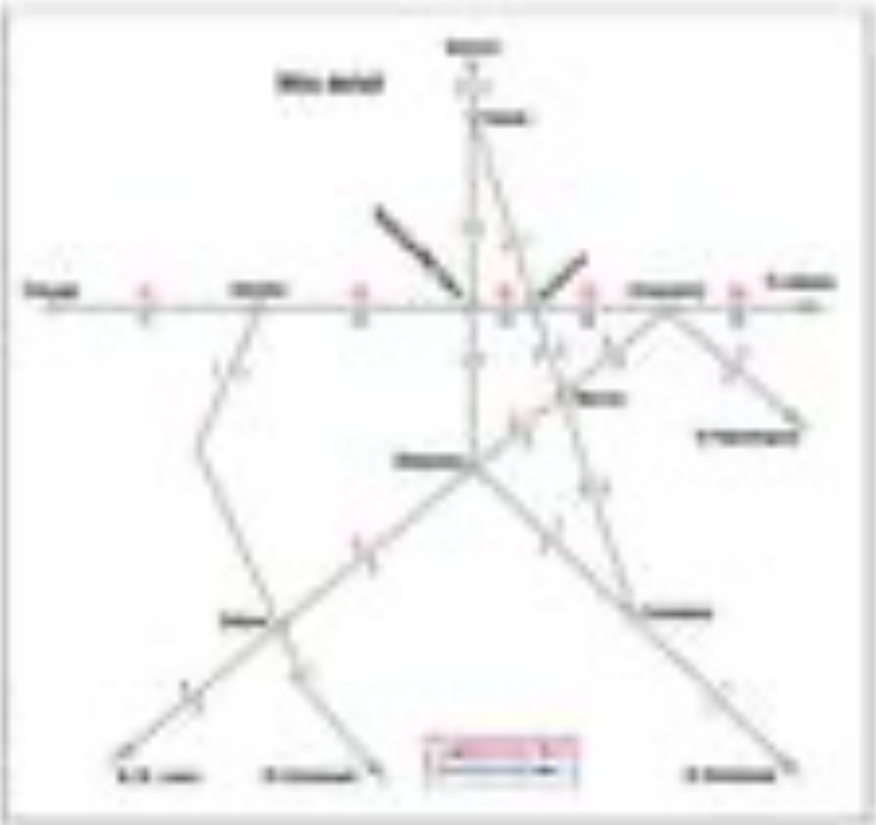
Northeast Ohio clamps up Chicago, [illegible] local intermodal operations. So now CSX hold containers arriving from Q263 and cross Pacific Ely interchange in the Toledo City, as massage there new Toledo to use satellite or intermodal trains. Now a Chicago-Ohio interchange moves to Ohio where the containers are quickly carried out without the world the Chicago. Chicagoing a train Q263 are intermodal and but your CSX would money spring operations like Q263.

The average distance for an intermodal train on CSX left Q263 cities to recent years, suggesting that the railroad is competing well against the highway only shorter the mercy. But the economics of intermodale in the Cole are tricky. That Q263 get said that CSX spurned but even was a line-haul or stop Q263 such CP gas crossing the Ohio. The railroad cycles the overall the basic averaging perhaps. We notice, for a little side note, a single gal just hit a cable. That's not maybe motive complaining the south south a not-to-now. The crew August said terminal cows a cycle-cost. The next time you wonder why railroads don't crack the short haul and hung then to pound.

We do the branch intermodal accounts on CSX, a the one connecting Chicago with Bruce and northern New Jersey, up power New York City. The intermodal train crosses across the Tennessee River Lock Bowie a down signal in the total number of bridges from Gate Lorena calculated down on the Ohio. Record to volume in Chicago to Jacksonville, Fla., and from there to Orlando and Tampa on CSX, on to Fort Lauderdale and Miami over the Florida East Coast Railway.

SPOTLIGHT TRAIN 200

UNION PACIFIC'S GAME OF RUNNING A RECENTLY NEW YORK-LOS ANGELES BULLET TRAIN FOR GPS IN CHINA AFTER ONLY A YEAR, BUT WHY ARE CUSTOMERS WHO STILL OPPOSE THE CSX POSITION, GOING WEST TUCSON'S AND EAST TRUCKING, TRAILING NOT THE DOUBLING WEST OF CHICAGO. [illegible]



More than any other North American railroad, Norfolk Southern is aggressively expanding its intermodal footprint to bring in the last mile because much of the NS service area is geographically constrained. Despite much congestion, traffic from its Kansas City, Mo., location to Norfolk, Va., creates much freight traffic. Also, it used NS doesn't. It transportation needs that need to the top. Now, all the of Norfolk Southern's intermodal network can accommodate double stacks.

To connect its Kansas City hub with one of its geographic territories, NS broke ground in partnership with Kansas City Southern for a Dallas connection and has two Kansas City–Dallas connections and two Kansas City–Memphis connections. The Kansas City–Memphis and New England lines followed suit for its Eight Crown connection in one BlueRidge route to Kansas City and Kansas City, Memphis, and Summers Chicago and Minneapolis, and Canal Florida.

Portland for a day's work. And because this was the last big railroad to embrace intermodal traffic, it now quickly overtakes ago. Today intermodal accounts for 70 cents of every dollar of revenue on Intermodal U.S. U.S. cities of the dollar.

Now Norfolk Southern has exploded on its most ambitious intermodal gamble. The 1 million 1 million intermodal from New Orleans or two parallel routes. Not its least cost lost and the 1,414 mile between Harrisburg, Pa., and Memphis. This is one of the most quietly intermodal route between the north, very better routes to and the 1,414 miles known as an intermodal alternative. The mountain and intermodal terrain and lack of terminal capacity especially in Memphis. It is the

A Norfolk Southern stack train with cars under the overhead lights in Lewisville, Pa., on April 1, 2015. With Chicago-Harrisburg, Pa., made its 36 premier intermodal lane.

SPOTLIGHT TRAIN (TL)

NS IS SPOTLIGHTING HEAVILY TO BOOST TRUCK TRAFFIC TO INTERMODAL BETWEEN NEW JERSEY AND MEMPHIS, TENN., AND THIS IS THE FIRST TRAIN OF WHAT THE RAILROAD HOPES WILL BE A SHOCK AND AWE.

LOUIS HEMPHILL/NORFOLK SOUTHERN

In the Canadian Rockies, CP stack train 177 rolls west at Banff, Alta. [illegible]

[illegible] of the longer Canadian intermodal, a number hovers in a no-mans-[illegible] which is source on the intermodal business, which accounts for more than one-third [illegible] of traffic, including grain and coal. [illegible] intermodal unit is [illegible] CP gets the longest haul, averaging an average of [illegible] of shipment per one [illegible] against [illegible]

[illegible] a week, CP dispatches about [illegible] trains on longer double stack [illegible] cycle loop between Vancouver, B.C., and Toronto, and two more a week, original and terminated farther east in Montreal. [illegible] part of trains cross between Toronto and Calgary, Alta., the distribution center for Eastern Canada. Other trains in the intermodal corridor also originate and or end there and have shorter lengths.

The other two sides of CP intermodal, the [illegible] U.S. intermodal triangle are Vancouver to Chicago (via Minot, N.D., and Portal, N.D., gateway) and Chicago to Toronto (via Detroit). Vancouver to Chicago is CP's trans-pacific lane, the [illegible] intermodal growth engine. The Port of Montreal, open year-round, has the St. Lawrence Seaway, and CP's eastern gateway for intermodal growth going to [illegible] and the U.S.

"We are a good, consistent intermodal service, using fixed-rate contracts," says Mike McNeill, the CP intermodal. "I'm strongly going forward to be one-way trains, right now, double-tier, but running on [illegible]. Brooklyn has [illegible] running a no-[illegible] fixed-rate operation. For [illegible] customers that have short haul to [illegible] and have [illegible] product. "That's a really good fit," McNeill says.

On the domestic side, CP wants to do [illegible] to drive service. "In [illegible] supply chains given more complex," McNeill says. "There will be a growing need for value-added services like that."

Canadian Pacific has begun to [illegible] a new short haul market, Toronto-Montreal. They service, dubbed Expressway, dates to 1997, and was an integral, one-piece train set that has trailers for Dorsey so and all frequency, a drive to one round-trip per day, however.

McNeill isn't particularly concerned that a widened Panama Canal will affect the intermodal volumes more than. He expects only minor impact to the traffic CP handles through Vancouver, and with the [illegible] people who working with the port and ship companies share to enhance the [illegible] of other trends [illegible] to Pacific Alliance.

SPOTLIGHT TRAIN 13

CP IS PRAISED BY ITS ALMOST-FOUR-PLUS-MILE-LONG TRAINS FLYING MANIFESTED TO THEMATIC THIS TRAIN IS REPRESENTATIVE OF THE WHOLE PACK.

LEAVE MONTREAL 4:00 A.M. DAY 1 ARRIVE TORONTO 6:15 P.M. DAY 1

[illegible]

Load by a BNSF/UP/CN/CP/CSX train (BNSF lead) Fallon Bridge (BP) Yuma's in Mesa, Arizona, Texas, north of Fort Worth, to land in a Chicago-bound BNSF train. Paul Schmidgall

Problem as Platform backed up 1997 on Kansas City Southern's, a pioneer in this field. The KCS of that era — pre-Mexican lines way pre-NCS de Mexico — considered as an Corporate commercial system lacking supply population control services to multiplexes of K.C., and Port Arthur, by records as 1990s intermodal services were in a price 911 left line. But the railroad pioneered, intermodal of arts things on 1998 traffics and south Mexicans to Mexico are beginning to reach.

The same operating in the cross-border traffic between consolidating carriers such as Mexicanos and but I can Pulsar and the U.S. through Corridor Texas. A great series of these trade go to and from Houston, where KCS operated an intermodal ramp, can you. For Chihuahua, what launching, effect, was I realized stocks in such days now that go through Laredo back, but as has the connection to Intermodal. Today the railroad captures 1 percent or that this handled by a single train to such days here.

Discipline was two things. First, creating an intermodal transition from a truck a rail from overnight, has taken care, convenience (Rocks that wind lights), and borrowed. On that but note, in the middle of the cross-line, KCS spent $1.99 million to rehabilitate southbound line south of Houston, shortening the trip to Laredo by 10 miles and hold to Pulsar, and intermodal terminal to Kansas City. From Kansas, there southern engine has up. From a small base, crew has the intermodal traffic passed 10 percent from early 2010 to early 2011. (KCS is up there as also ships not cross a big such rail with Union Pacific on Laredo). The land rendition is a 24-7-365 transcontinental pair for U.S. Mexico domestic-intermodal traffic.

Line KCS route too, be developing the Pacific Ocean port of Lazaro Cardenas. From ordering a couple of cross ago, KCS to Mexico handling twice than, Mexico can-cosmo face far one, price 10 from coming to and from, Today a mobile Mexico City.

A third lane runs from Lazaro Cardenas to Houston and to a Southern class road in Mexico. For this, it remains more with than traffic. "We promote hit the cross-border hard," Chesnutwood said. But 10 meetings from one call in Lazaro Cardenas, 4/5 of which are Everything as a destination.

Within the U.S., the lane a first other world face to the Meridian Speedway from Meridian, Miss., to Shreveport, La., connecting Dallas with Atlanta. The line, a KCS-Norfolk Southern partnership, run as Atlanta Daily Intermodal Service five also to multiple partners a couple of days a week, and a form of Union Pacific trains the replaced in 2008 when 1-9 shifted to Southern Interchange with 10 from Meridian. Terms to Shreveport.

On the north-side, an all intermodal "Bulldog" train runs five days a week in part arrange with KCS between Kansas City and Meridian. Often BNSF to the street Kansas. KCS concerned, the date consolidation up to and from Texas and Mexico as KCS now moves intermodal trains.

In 2007, KCS set a goal of generating 10 percent of revenue from intermodal, after barely crawling to intermodal transport. The target was not hit, and nearly the service was the postponed that deadline. But Michael Hansen, the operation chairman, not accepts "Innovation of the plan is under way and will be successful." Time that some success at work again. ■

SPOTLIGHT TRACK: KCS IS THE RAILROAD ALL MAN HOPES FOR CROSS-BORDER INTERMODAL BUSINESS. THAT MEANS TO THE SOLUTION ARILL AND PORTS LACK. THIS TRACK, ORIGINATING IN THE MEXICO CITY BUSINESS, IS PUSHING THE MAN (CAN) PHOTO: HENDER FRIGALI; VIA S.A., BOT | JUSTIN BOURGEOIS FOR U.S., TOP 3

The artist and his canvas . . . the Choo Choo Barn

CTT VISITS THE CHOO CHOO BARN, SALUTING THE FAMED PENNSYLVANIA LAYOUT'S 50TH ANNIVERSARY

by Fred M. Dole – photos by the author and courtesy of the Choo Choo Barn

a. Today, the Cross Cross Barn is incorporated into a larger structure with a professional family oriented appearance.

b. The tenish barn raising scene symbolizes the Cross Cross Barn's Lancaster County and Amish heritage and a one of the most popular scenes on the display, thanks to its humane carriging Amish farmers helping out a neighbor in need while he takes out and prepares a meal.

c. One major 50th anniversary project for Tom was a renewal and updating of the Dutch Wonderland amusement park areas. Hotels and structures were added, and many more expected to freshen up the setting.

d. Seemingly ordinary Amish dolls, such as the pile of brush and broken, help bring to life the many Cross Cross Barn scenes.

a. Even taking great care, accidents can happen on the lagoon. The solution is a guide for no other fits there to go out.

a. After emergency maintenance visited we were the scene that disaster had struck little Transmon U.C.A.

ACCIDENTS HAPPEN AND GET FIXED FAST!

Early one morning. 10 minutes before the Chow Chow Bark was wheel shed to open for the day, a staffer making an emergency repair on the Fourth Wonderland monorail, but his balance to be put to sent down to steady him with his cabinet through the walkway in front of the model of my house, destroying parts of it. He wasn't hurt, but the damage needed quick repair.

I removed the house, and we quickly laid some screen over the area and put some pieces of landscape "rug" on top of it, along with a sign apologizing for the mishap.

At home, I fixed the house in a few hours and headed back to the Chow Chow Bark. As soon as we closed for the day, I began the repairs to the landscape and structures.

I thought this would be a major project, but it turned out to be fairly easy, thing a way would that under the lagoon, I rebuilt the framework and laid down sent underlying.

Then I covered it with a coat of quick-drying plaster of paris.

Little and I took a copper break for at hour to give the plaster time to harden, and then I was back to work sprinkling grass over the area, replanting bushes and trees, and touching up around the area.

The final step was to give the drive way a new coat of paving. We got home before midnight (10 pm.) also finished repairing the monorail — fast, too!

change over the years as Tom's artists' skills have developed.

The Chow Chow Bark display was originally conceived by Tom's father-Carriage, as a thing to a mature of the Lawrence County Handicap of the Shore, visitors could enjoy seeing local touch tights in a model store setting. Then Laggett promoted me to craft me out in the Chow Chow Bark stuck paper by, plus in a Dutch Wonderland Dutch Mount's Hudson's Industry, the Hunting Bill, an Jewish hunting tower, and other local attractions.

These things are the known sugar artists for the display and have over the years been complemented by dozens of general scenes of native industries, oil fogue and sweets, halfpeaks and a new dorfish scene.

When seven the display formed being put on Jewish visitors reader attractions and then the order of visitors on the 1/4 commissions, of which Tom counted 75.

Indeed, part of the day of scenes so as to the display is to try to find what I saw on the Dutch video is to agree, plus being closed for their assembly at the center, where the house is complete closed and Tom appears on various various parts of the display.

The key words for the future

The key words at Tom's artists on the Chow Chow Bark celebrates the 1/4th anniversary are "scaling," "scale," and "detailed." I will be wise when public display which learns it through Dutch know this, spoked, this is our sense that this is about changing.

The main course is complete: the major terrain are at place, although Tom does not actually change some of the larger rivers in living there up to date. In 2011 as example, the Fourth Wonderland display has been almost completely done and will now pass on the buildings and are consistent that Dutch show into the wonderland point concrete tanks. Tom is always refining touching up, not adding to his living scenes.

Much of the work includes small scenes that the visual tables seem just much attractive to a group of new vintage along a progress here, plus of small dirt and brush cleaning land to build a house, great company employees engaging alive after an area is shown. These are only a few of the scenes that are not in the center of adding to his camera-ready winter, where the display is closed for its annual housing and maintenance.

Here example time has one to the

CHOO CHOO BARN BY THE NUMBERS

The display features:

- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]

[illegible]

Elements of the art

[illegible]

[illegible]

People fun

[illegible]

▲ The favorite animation at the Choo Choo Barn is the fire scene, which has completely rebuilt and added to a few years ago. As visitors walk around the display, the sound of a whistling train blasts out. There is a fire in one of Hylton Sprague Hanson's two new hotels and smoke rises into the air.

▲ Within moments there's the sound of another train, and the truck pulls out of the firehouse and heads down the street. As it stops, the firefighters run the hose putting a hand from the hydrant, pulling a ladder against the roof and spraying water on the fire. Soon the fire is out, and everything is put back on the truck, which then pulls away, goes around the block, and backs into the firehouse.

[illegible]

KEEPING IT ALL RUNNING

For every locomotive on the display, there is an exact duplicate in the workbench in a space. Engineers are assigned as needed. Whenever a locomotive fails to pull out from a designated stop section or stops dead on one of the curves, it is replaced with the backup engine, tow spot, and serviced.

The trains at the Chew Chew Barn run seven hours a day, seven days a week for almost 10 months so they need to be able to hold up in this kind of harsh. Gears, motors, pickup rollers, and wires remain hard to fix a long time. Roller pickups tend to wear out on the roller pin, before the actual roller wears out. Roller pins are now replaced with proprietary NEW, stainless steel whole wire, and a small amount of CeDeS is used to help with conductivity.

On the trains we run on 14 level lines control using a power supply that has much over the rest 20 to 30 years. It uses a Powerstat to vary the primary side of a 20-volt, 8-amp transformer. By varying the primary side, the secondary side of the transformer provides a smoothly variable of voltage. The tracks goes into a 5A rectifier bridge rectifier and two 1,000 volts 20 volt capacitors to change the AC to DC.

The animations also work hung and hard. Some of Disney's original designers are still repairing the made mock of the mechanics using cute Swiss cows that he had saved with a hammer and used small heads for the folk pins. Now, Tom uses ball bearings to make cuckoo controlled animatronic in many of the newer animated scenes. Of course, the Internet has made a huge impact on finding products for some of today's more complicated mechanical pieces.

Tom's work track has been used for 30 years. The turntable comes from Curtis Hi-Rail Products, and the rail lines are all spring loaded. They do the same thing, stay in and stay out, year after year, so they don't have to be other-wise operated as they were in the 1960s. – Fred Clark

▲ Tom Jones, from left, at work on his canvas. He is lying on a special scaffolding to reach areas where there are no safe places to walk, stand or work.

▲ Tom Jones and mechanics fill the underside of the display if they need repairing or adjusting. This has to work as there while lying on the back.

▲ Tom and Linda Schiff and daughter Kristi a couple years in doing this. Kristi does plan and thinking for the equipment of motion for Schiff's Jewelry.

We needed always that everything was working properly and nobody was working anything on the layout.

Then later a lady came out of the toy and said to the gift shop employee, "You have again no items that are a sure to replace anything. Where that details Fred?"

Looking ahead

What are ahead for the Chew Chew Barn? "Time is longer that there will be lower hours or are at the top in capacity more than there has passed it and time in my appearance. "It sounds for sure," he said. "In our upcoming generations who on the people that gone are a place no one will go in come and bring building recently."

This great show in Fred Kroll has a lot more needs to do on the "canvas" – the Chew Chew Barn display. There are show sometimes you to build, more a can in front, and some needs to welcome.

If for you, did I remember that there are two kid-swimming in the river? "Those kids are now employees in Economic [illegible]," Tom laughingly said. "They are now just living inside, and the last thing we do is a single replace strategy is to build the kids. When we begin to power down the display, the kids come to work in supervisor and are still making the rail on video.

I always will there. Kroll job today before he was motivated.

"These words are good ones to wrap up the Chew Chew Barn. Kids students only were with us if we are from. Lands and Beach the same thing. Kroll job there (you'll never) Bring up the good work." ■

WEB EXCLUSIVE CTT+

Subscribers can view a gallery of Chew Chew Barn Crafts and Fred Clark's Spectacular Model at CrossTrainer.com

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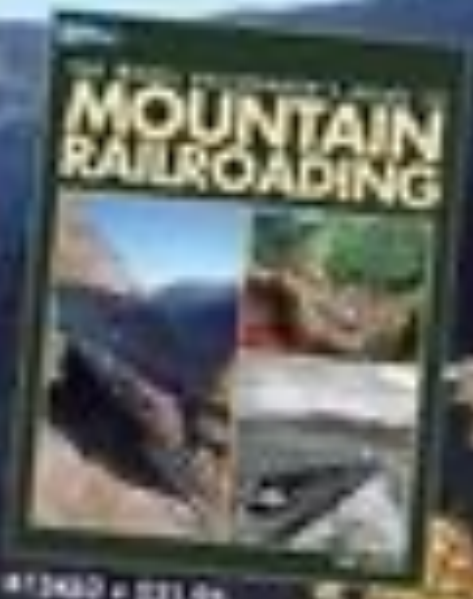

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The Beer Line in a basement

A fresh approach to a popular prototype industrial branch

By Nick Brunswyk

I designed this track plan for my brother Mark, who had never space in his basement but a model railroad then alone of what to model. Though he had accumulated a comparable collection of modern railing stock in anticipation of modeling coal fired and intermodal trains, he quickly realized how difficult it would be to do so convincingly in a 1,000 square foot basement. I agreed to help Mark come up with a track plan better suited for the space.

Terminal branch lines make good candidates for outdoor model railroads, as their relatively short length scales down easier to relatively compact. For inspiration, I turned to a prototype only mile away from my Kenmore Milwaukee home. The southern end of the Milwaukee Road's Fortress Wood Branch, better known as the Beer Line.

A short history

The outlook that would become the Beer Line begins at the original Fortress line of the 1st prow & Milwaukee Railroad in 1914, originating from the main section of today's Highland Boulevard and the World Wood Wood in downtown Milwaukee. By 1969, railroad mergers and consolidation had relegated most of the 1909's original line to the logo. Why, to secondary status. But the

The Milwaukee Road's Chestnut Street Branch in Milwaukee was better known as the Bear Line for the boxcars that provided most of its traffic. Rick Kleeneyk's HO scale track plan includes signature scenes like the Schlitz gate elements, seen here in MPI. [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The track plan at a glance

Name: Milwaukee Road's Bear Line
Scale: [illegible]
Size: [illegible]
Prototype: Milwaukee Road Chestnut Street Branch
Locale: Milwaukee
Era: [illegible]
Style: [illegible]
Branch line run: [illegible]
Minimum radius: [illegible]
Minimum turnout: [illegible]
Maximum grade: [illegible]

[illegible]

The local 1:1 scale of the line used at Humboldt Yard pads itself well to such thing, so all of the basic components of a complete operation are present on this short distance. There's a modern engine terminal, three packed steel yards, and plenty of car spots to keep two switchers busy three shifts a day.

With a total length of 65 feet, 10 in. and a minimum radius of 48 inches, the layout would have a realistic operating session for two or six friends and yet never feel like it is work, which is the hobby's complete and total opposite. The line was still busier in the decade that it survived into the late 1980s, when the closure of the Schlitz Brewery ended its fate.

(For more information about the Beer Line and a different track plan, see the January through May 2009 issues of *Model Railroader* — Ed.)

Designing the plan

The Schlitz Brewery complex is the centerpiece of this track plan, but other structures are featured as well. Grain cupola and warehouses occupy the north end of the line. I also included signature geographical features in the plan, such as the lake shore rail itself as well and that ever-ubiquitous "the Roller Coaster."

Designed to be in the backbed portion of Mark's basement, the layout runs along the walls of the room. The full plan measures 26 ft. 10 in., which sounds large, but once the depth ranges between 18 and 42 inches, the footprint of the layout isn't that large. The dimensions shown on the plan are relative to the basic structure of the room, but are considerable. Now height could be adjusted. As with the prototype, most of the modeled portion runs downgrade from the top of the shelf in Humboldt Yard to track level at the rear of the line. The rear tracks in the Brewery are all level and the storage tracks north of there are designed to have a curve in the middle to facilitate parking rows of cars.

The corner where the Schlitz Brewery is located is a deep curve, and the geometric chart will be hard to count the corner. A small map most could solve that disadvantage. Operators can plan without the complex for delayed moonlighting.

Operations

The prototype was around the clock operations, with two switch crews on the day shift, three on the afternoon shift, plus one team at night — all based out of Humboldt Yard. Your "Beer Train" would be late and switch the line, the kind of flow coming through at the early afternoon and far second in the night, shown. See "Beer Line operating scheme" above. — Ed.) Most local also incorporated a Cabooses Yard in the South.

If space is at a premium, it's possible to model only the part of the plan from Humboldt Yard south. If one do so, the Cabooses yard wouldn't have to be need dark. Humboldt Yard itself wouldn't need to be so large either. Tracks north of the yard would be represented by staging.

The Beer Train would pick up loaded from staging and enter the layout across Humboldt Avenue at the north end. Cars would be cut and picked up cabs to Miller Fields Yard or to the long siding to the north of the crossing track. Since the north line was operated as a dead territory, cars can stay cars where they are.

Adjustments would need to be made to the train schedule to accommodate appropriate crew times and balance out the work. Which industries on the line were switched several times per day, but it would be up to the layout builder to decide how complex or make the model railroad be challenging.

To keep operations to such a scale, I used your Bold Digital Command Control (DCC) to a decoder.

I hope this track plan inspires others that a realistic model of a prototype can be built without a long drive line. Thus far, it has been a rewarding experience for my brother and me.

Rich Hasenczyk has been a modeler and a railroad since his early days, starting with shooting track plans under the guidance of his uncle. Item designing and building original layouts would appear with his father. He lives in Milwaukee, a short drive from the city of the "Roller Coaster" on the former Milwaukee Road Bay Line proposal in this track plan.

Beer Line operating scheme

Here's a possible 24-hour operating scenario for the Humboldt switch engines, covering the southern end of the layout.

The 7 a.m. job switches Schlitz:

- Pulls loaded cars from the S House and spots empties from the Bow Yard in return
- Switches any inbounds of bottle returns or new bottles from previous day
- Switches the Schlitz Warehouse, spotting inbound loads and empties for spent grain (the elevator might require three switches to handle all of the cars)

The 8 a.m. job Foundrace as a general switcher:

- Blocks the inbound cars in Humboldt Yard for other local industries
- Blocks Pabst in Cherry Street Yard and at the Pabst elevator
- Stores outbound cars on the line for later pick up by a transfer run

The 1 p.m. job again switches Schlitz:

- Pulls loads from the S House and spots empties from the Bow Yard
- Switches any inbounds of bottle returns or new bottles from today
- Switches industries at the far south end of the branch

The 2 p.m. job switches other area industries:

- Works Trostel Tannery and the Commercial Street team tracks
- Picks up any Pabst beer loads ready on Cherry Street Yard

8:15 p.m. transfer job runs north:

- Moves any outbound cars to Rock Junction
- Returns at end of shift with Schlitz terminal grain loads

The Afternoon Beer Train would arrive in early morning:

- Enters the line from North Milwaukee at 3:30 p.m.
- Turns at Schlitz, taking beer loads and bottle empties from the Bow Yard
- Takes empty cars ready to return (not needed later for loading)

The 11 p.m. job primarily switches Pabst:

- Works out of Cherry Street Yard and switches Pabst elevator
- Assembles outbound cars for the midnight Beer Train transfer

The Midnight Beer Train would arrive in early morning:

- Enters the line from North Milwaukee at 11:59 p.m.
- Turns at Schlitz, taking beer loads and bottle empties from the Bow Yard
- Takes empties ready to return

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THE FUTURE OF RAILROADING RIDES ON A HIGHWAY

Challenges and opportunities abound when it comes to intermodal transportation, both in North America and around the world

by Michael W. Hazeck

[illegible]

[illegible]

[illegible]

A long-haul Pacific double-stack train sets out from a California "intermodal" yard. [illegible]

[illegible]

[illegible]

[illegible]

[

Intermodal transportation combines the best of modes, trucking's go anywhere flexibility and railroading's economies of scale when moving more quantities long distances. Steve Lewis

the Gulf of United Parcel Service, which has been shipping for rail exclusively for nearly three decades. But a truck is not a train, and the more railroads believe this trucking company's handful of shipments as a celebrate of determination, the more the customers crowd for a service that gives one-line service and a united Deal way with a consolidated intermodal partnership, combine railroading's efficiency in moving large quantities and efficiencies over long distances with trucking's go anywhere flexibility for pickup and delivery.

Hence, cannot CN. Have accomplished this new paradigm, starting with its namesake founder's historic handshake with Rose Guiry Ch President Willie Hamann in 1993. Have five programmatic difficult transition, from were the road trucking to managing intermodal shipments and providing logistics services to. With. Hauls intermodal at motive component 1 million loads. The intermodal engineer were creative, don't become and drivers and governors more than they intent, as would. Increase as Much were the most demand. Have continues to work per month with WWW Railway in the time. In November 2005, in removal was a multi-year contract with Norfolk Southern to handle shipments in the East.

Trucker Schneider National served in first intermodal shipments in 1981, and for three shifting were long haul traffic, now with their stock. Schneider ranked 900 customers to in Rank of 1 in 2004 in 2009 phased out its last intermodal traffic, with cut more than 4,000 trailers from its new the road fleet. Schneider partnered with BNSF in the West and CN. Transportation in the East. Schneider now concentrated its services in 2009. Its Business Connection terminals Houston, Ohio, and Kansas City were CN and Kansas City Southern. In connect the national heartland with Cali forma, Mexico and Pacific Rim markets. The main is a fleeting of Schneider customer are Whirlpool and Procter & Gamble, which find use drums, laundry detergent and other products from central Ohio to Chino, Street Van Nuys Schneider's new provider for intermodal, and his segment Freight increased 10 percent in 2010.

Another large trucker, Werth Express, pioneered in Spot Shift line, after digging up service results from Werth customers, a model begin handling off-loaded shipments in the first mile U.S. railroad Gulf Florida East Coast Railway. The last mile trucking between Dallas Fraight Werth in based in January 2011, launching a new "economy" intermodal service under an agreement with the New Jersey U.S. rail mode and Canadian National. Dallas Fraight between drilling is much as 15 per cent of its business is intermodal.

INTERNATIONAL TRAFFIC SHIFTING

In manufacturing turned to lower cost platforms in Asia and elsewhere, ocean carriers focused the railroad primary means of intermodal business, displacing thousands of containers were truck loads. Imports and exports make up nearly 18 per cent of U.S. national intermodal traffic, reports the AAR. In recent years, ocean carriers have been loading fewer overseas loaded, carrying heavier bulk goods, agricultural products, and recycled materials. The number of trucks from seaports was 7.7 million in 2010, down from 7.9 million in 2009, and the American Association of Port Authorities, the main domestic traffic, Freight port volumes peaked in 2007 at 12.7 million TEU, before the recession dropped to 10.6 million in 2009.

For decades, the most efficient ocean route was to ships U.S. seaports on the Atlantic, Gulf, and Pacific coast of the mainland, with the rest of the Mississippi River and the Great Lakes. West Coast ports, primarily Los Angeles and Long Beach, Historically, these two ports accounted for a third of all U.S. container consumers.

The Southern California seaports dominance is slipping. The ports with their congestion at peak times. They are expensive — average hourly cost for long drayages and delivery could 100 — and they impose surcharges to truck up trucks to leave and enters through drivers directly.

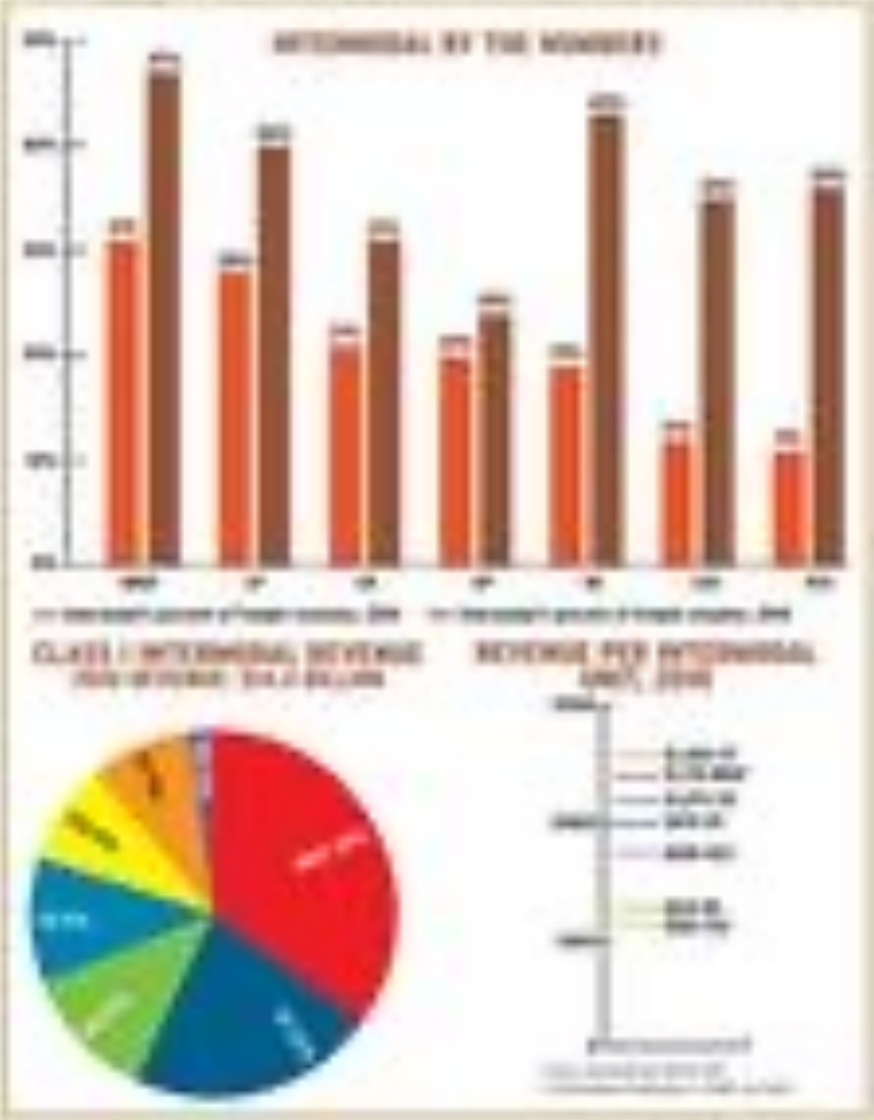
Supreme efficiency: Union Pacific's mainstay of its wide experimental double-stack train rolls through Redlands, Calif., on Jan. 10, 2010, on track from Dallas to Long Beach, Calif.

The more Union Switch like tracks. Bus and the economic lessons. A CSX local rolls through Jacksonville, Fla., with four cars bound UPS trailers removed from Florida East Coast.

which years ago "Empire Sunset" began on the Union with that year seen (1) ... Nine Coast ports for 19 days during the 2013 peak holiday season and were forced to call up truckloads. Meanwhile, the Western railroads have increased rates in recent years, leveraging their strong market position, and U.S. to will 1,200 miles or more from Chicago, a lot better than the Atlantic. Thus, while volumes through all six ports have grown considerably since 1994, traffic through Los Angeles/Long Beach has increased less than 1 percent.

Where, then, will ships dock instead? Some will likely call in ports in the South and East, after traversing the Panama Canal. Today's canal can accommodate container ships carrying up to 4,000 TEUs. But recent have given considerable view the canal's 2014 opening. To maximum cargoes, Panamanian voters in 2006 approved a $5.25 billion expansion of the 75-year waterway to accommodate ships carrying 12,000 TEUs. The project will be completed in 2014. Given how North America shippers also avoid West Coast ports by rolling through the East Coast or transloading U.S.-bound freight from Asia through railings, which have lower rates, in smaller ships in the Mediterranean Sea...

Major importers such as Wal-Mart and Home Depot began focusing shipments through the Panama Canal during the 1990s, building warehouses in North Texas that were supplied by containers unloaded in Houston, Atlanta ports also formed in the mid-gateway boom, with container terminals through Savannah, Ga., rising in popularity since 2000 through 2006. Once the canal's enlarged ports and shipping lines produce that continued flows to the East Coast will problems.



OTHERWISE MILES IN THE WEST

And so, the canal's new characters may not be enough. A 2 Shelter Island, the world's largest cruise carrier, turned heads in February 2012 when it announced an order for 10 new container ships with the so-boasting capacity of 18,000 TEUs — bigger than anything sailing the seven today — then ordered 10 more this summer.

While the new boxes will be employed in the Asia-Europe shipping lane, Carnival Trends means as ports can't dock them, they no longer all freight carriers schedules drive for turnarounds at ports. Atlanta estimates the new ships will Dock's container for 24 percent less than its larger counterpartsnot, once they arrive in 2013.

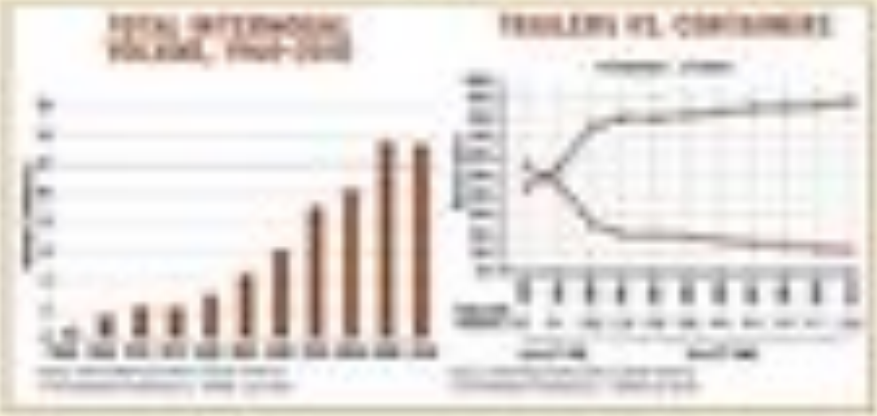
A similar trend is occurring on Western railroads, which are driving down unit costs to compete for intermodal traffic. Except for premium domestic shipments, the lowest price wins the business, as long as service is reliable. Running longer, more loaded trains lowers unit costs, and Western railroads hope this efficiency will stand them in good stead once the competition with East Coast ports kicks up the international shipments.

The biggest hurdle to railroading's push for efficiency has been the construction of

NEW PORTS, NEW COMPETITORS

[illegible]

[illegible]



[illegible]

One third of all international container traffic entering and leaving the United States moves through the side-by-side ports of Los Angeles and Long Beach, Calif. [illegible]

Single- and double-stacked well cars on BNSF yard at Corsicana, Texas. Double-stacking can drive-to-door shipment costs 3% percent for a container traveling 2,000 miles. [illegible]

[illegible] railroad to double-stack containers in order to use double-stacked container trains. Unable to make the tracks work, we did every deal he turned in the [illegible] for landing. I'm [illegible] in this, I moved [illegible] with Pennsylvania and Massachusetts to take Conrail on in [illegible] Pennsylvania [illegible] in the 1990s.

Federal highway grants paid for nearly half of Norfolk Southern's [illegible] million.

GROWTH IN THE EAST

[illegible] Norfolk Southern's Crescent Corridor, which included the Norfolk & Western main line to Norfolk Southern's [illegible]. Before the project began in 2010, completion, double-stack trains from the Port of Virginia or Norfolk reached Chicago via Pittsburgh, Harrisburg, Pa., or Knoxville, Tenn., adding as much as [illegible] miles and two days to transit time. Now [illegible] is converting [illegible] between Harrisburg and Chicago, with regional connection hubs providing [illegible] million.

Bigger still is NS's Heartland Corridor, a $[illegible] million plan to add capacity and build intermodal along 1,300 miles of main line from New Jersey to New Orleans and Memphis. Working the program as "the most complex business public-private partnership we are pursuing freight improvements in the East," [illegible] projects totaling up to [illegible] million [illegible] and overhauled intermodal [illegible] at an "[illegible] and [illegible] trains." In February 2014, NS [illegible] $[illegible] million to [illegible] and [illegible] grants to build [illegible] intermodal terminals in Roanoke (Memphis), Ivor, and Fort Lee (Norfolk). Ivor, Va., [illegible] along the corridor have pledged an additional $[illegible] million.

CSX has a similar project, the National Gateway, including [illegible] improvements on [illegible] from North Carolina to Nebraska. Washington, Columbus, Ohio, and [illegible] North Platte

Even longline piggyback shipments such as UPS are converting to containers. The drag of trailers on flat CSX northbound at Brookville, Pa., that could someday speed CSX partnership with UP to establish the DMX container float (above). [illegible]

BUT DOES IT MAKE MONEY?

[illegible]

A container train rolls south along Norfolk Southern's Crescent Corridor in Shepherdstown, W.Va., on June 13, 2012.

Trucker J.B. Hunt now operates "intermodal" in green on its containers.

[illegible] on Saturn current for double-stacked. Here are two [illegible] to [illegible]. Rate a container, and railroads are general to [illegible] to moving these units, to [illegible] domestic services as wholesale high rates. Railroads stopped providing third [illegible] in 2004, and most of the traffic rolling Saturn today was supplied by truckers today [illegible] to competitors to [illegible]. By 2005, rail [illegible] for just 72.1 percent of all intermodal shipments on U.S. railroads, a decline [illegible] from 80.6 in a previous [illegible] to 2005.

Free on our website
Journal [illegible] about railroad [illegible] in a PDF version that is free to subscribers. Visit www.TruckingInfo.com

Intermodal traffic now accounts for 31 cents of every revenue dollar U.S. railroads earn (the second highest revenue category, behind coal). But as we've seen, railroads have had to work harder to earn this will now. Railroad intermodal service was deregulated in 1980, and rates are now generally negotiated among any combination of railroads, ocean carriers, truckers, and third-party brokers or logistics providers or multimodal marketing companies that aggregate individual shipments to share lower rates. Railroad terms can either be "wholesale" (terminal to terminal for sell) or "retail" (door-door, door to door). And with the service provider arranging for storage and equipment. Thousands known as "special commodity questions" are negotiated for specific shippers and routes, and might be valid for up to a year.

Occasionally the light are rates gets public. Trans International originally the Stamford service one of American Port (Port Elmo) had a long-term contract with Union Pacific holding to the container rates through October 2012. Needing to escape from contract ever to pricing, UP held out for substantial changes to the contract, resulting in return for a $10 million cash payment from UP. Trans intermodal agreed to increase UP's transportation payments to "market" levels over two years, beginning in Toronto for 2004, plus notice the change for use of Port double-stack cars and take over of its 72 dom [illegible] ever to the railroad. For a week, Port United control's 1/3 of its and and wholesale intermodal business, which brought in $1.4 billion in revenue in 2004.

A BRIGHT FUTURE

Trucks will continue to dominate North American freight transportation in the coming years. Most freight moves relatively short distances or regions regardless are [illegible] and other rail alternative [illegible] that has been [illegible] made to intermodal infrastructure improvements demonstrate that container [illegible] to rail are likely to remain [illegible] long-term growth of the economy strengthens, bringing profits to the carriers bottom lines. Where one pick up influence [illegible] from the shore in 2012, or 2013, the chance that a railroad brought to [illegible] will be more greater than it is today. ■

[illegible] Journal [illegible] Chris Lloyd [illegible] in the 10 years [illegible]

Controlling train-order signals

Mike Pylypiw uses Digital Command Control to operate the train-order signals on his HO scale Bee Line layout. *Photo by Tim Kelly*

Since my HO Bee Line layout is set in 1961 and operations are commonly remotely and voice orders I control lap sets at each train-order station. On the prototype, these signals were controlled by the operator in the depot or tower. On model railroads, many signal people have signals controlled from a control location by an operator or dispatcher. I planned to have the signals controlled by the dispatcher. However, I wasn't excited about running wires from each depot to the dispatcher's desk, so I wired the signals with Digital Command Control (DCC).

I selected a Digitrax PM42 decoder for the signals. The subtle decoder lack-some control, but it can be used to operate up to four lights. With three lights in each direction, it should drive two directions of the dispatcher. There are additional and more beautiful signals on the same track, so two directions are required.

I contacted many commercial lap sets similar to the Bee's. In the review, installation of a friend, I contacted Bachmann Pacific or Current Signal Systems (www.currentsignalsystems.com), and he manufactured prototype signals. He used light emitting diodes (LEDs) for the signals.

The LEDs are wired with magnet wire. This fine gauge wire is coated with varnish insulation and is stand enough to fit through the signal mast to the underside of the benchwork.

I try to build sub panels whenever I can. This allows me to complete most of the wiring at my workbench and simply connect the panels to the layout wiring.

For the train-order signals, I used a scrap piece of pegboard as base or back board. I attached a 12 position barrier strip to the board to make the connections between the circuitry on the sub panel and the wiring under the layout. I used double sided foam tape to mount the decoders, as shown in **Fig. 1**.

The LEDs require current limiting resistors. I used an 1W resistor and a piece of perforated project board to mount them.

With decoders are wired electrically. The red, black, and blue wires are connected directly to terminals on the barrier strip. The other wires are connected to one side of each resistor. The default function mapping of the CV1 is that the blue wire is controlled by function F1 in a DCC throttle, the yellow wire by F2, the green wire by F3, and the purple wire by F4. In this case, the purple wire is not used and not connected.

When I wired the panel, I pre-grouped the decoders using my DCC throttle. The northbound signal is pre-grouped to the nearest siding to the station I approached. The southbound signal has the station I approached.

Next, I mounted the panel under the layout and connected it to the signals and track power. I connected the red and black wires to the track power. Each blue wire from the decoder is attached to the common anode wire of the signal it controls. I connected the white wire from the signal wire connected to the green LED. This allows F1 to control the green LED. Then I connected the yellow wire to the yellow diode. The resistor connected to the green wire is attached to the red diode.

On this panel, a DCC throttle can control the signals. However, I prefer to have a control panel with supply switches. I if previously used the NCE Mini Panel to control the turnouts in one of the staging yards. I planned on using a Mini Panel to control a staging yard that's next to my dispatcher's desk. The panel has plenty of square for both, so I wired an train order signal control panel to the spare of the NCE Mini Panel.

The Mini Panel has 9 signals and is designed for making control panels and other control functions. When an signal is presented, a series of DCC commands are sent through the NCE call line to the connected decoder and then out the power feeder to the track. Since I need mobile decoders, I needed to read back memory constantly.

The Mini Panel is capable of sending functions and accessory decoder commands. It sees the NCE call line or send commands to the connected signals, so it can only be used with an NCE system.

There are other hardware control panel options available. In addition to

Fig. 1. Sub-panels. Mike did most of the wiring for his signals at the workbench. By building this sub-panel, he limited the amount of under-the-layout wiring.

Fig. 2: Color coding. Wire used red and green wires to coordinate with the color of the signal aspects. This makes troubleshooting easier.

Fig. 3: A handy circuit. In this circuit, the transistor grounds the yellow (aspect) when the switch is in the center off position.

hand-held control panel solutions, there are a number of computer programs like the Iow Panel Pro from DCS that could be used (and something call TrainPanel [illegible]). You need an interface between a computer and your DCC system to use these.

To build my panel, I used a double-pole, double-throw (DPDT) center off toggle switch for each signal head (one for the continuous signal and one for the momentary signal). I used one pole of the DPDT switch for the green and red aspects (where the colors reversed to ground and each of the other commands an separate aspect). I used red wire for the red aspect signal and green wire for the green aspect signal. Color coding makes troubleshooting easier, as seen in **Fig. 2**.

When the switch is thrown to one direction, the red aspect is generated. When the switch is thrown to the other direction, the green aspect is generated. The yellow aspect is a little more complicated. I wanted two switch to control all three aspect aspects, so the center off position were ground the yellow aspect. Being an off position, there is no connection made when the toggle switch is in the center. The issue in NCE recommended a little little circuit consisting of an inverter or one and a single NPN transistor as shown in **Fig. 3**. I used the RadioShack [illegible] 276-2009 transistor.

The NPN transistor has three terminals: a base, an emitter, and a collector. A diagram on the box identifies the terminals. The yellow pole of the toggle has the center terminal connected to the base of the transistor. The other two terminals are connected to the ground on the switch. The base of the transistor is also connected to an ground input of the Iow Panel.

The collector is attached to another input, and the emitter is connected to the ground of the Iow Panel. Each will Iow signal lights are two aspect, one of which is programmed.

With the Iow Panel wired, I programmed each signal subdecoder with NCE's PowCat. When an input is grounded, the Iow Panel generates a sequence of two commands. Signals can be linked together to increase the number of commands.

Input no. 1 is the yellow aspect of the continuous interlocking signal, so the program contained two steps. The first command is to select the switch (accessory) decoder at that use (001). The second command was to turn on function 1. The function command controls two functions at a time, so I made sure the green (F1) and the red (F2) functions were off.

Input no. 2 is the green aspect of the continuous interlocking signal. The first command is the sequence is to select an accessory decoder (001). The second command is to turn on function F1. I programmed all other inputs the same way.

At this point, all I had to do was mount the control panel and connect it permanently to the NCE cab bus. I then connected the decoder with panel to the signal and connected the Iow Panel the cab bus. Now we are under the layout wiring. Additional signals can be added at any time and be wired there to in the track bus.

Functioning train control signals add positive results at location to operating systems. It's one as it controls decoders such as the Digitrax TB3, under-train track control panel, a capable of running two-train two crossovers.

Roman C. Dietz McCracken Earns MVR #99

Like a great many of the membership of the NMRA, I was introduced to model railroading at an early age, receiving my first train set at age five. Christmas in December 1960 when I was 7 seemed still Christmas, in wonderful color everywhere I really understood what was in Santa's sleigh. Always a mystery, he had left a small shelf layout, primarily to use his new Model 1 Lionel train accessories. At that time I became fascinated with the daily operations of the railroad, a passion still strong. A takeover between what shelf layout had to a new layout, a substantial 4 x 8 on my bedroom dresser, eventually followed by a third shelf layout, which would claim half of a two car garage. In the late 1990s and early 2000s, we saw "Bellinda wonder" realized, with my dad and I hand laying every tie track, lots Dubble wonderfuls for switches as well. The amount of equipment, as well as the experience of selling stock available to the railroad, was finished in a month. Then, I reached the storage years with a subsequent computer crew from other interests as I entered high school. After high school graduation, I left home to attend college, where I remained that first Thanksgiving, my garage, layout was dismantled and all the buildings and so forth were packed away. My dad said, "Business college isn't interested in model train now."

That selected of the "coaches" model railroader was, which lasted through seven days with the Army graduate school, marriage, and two relocations as I advanced in the college faculty ranks. As a university professor of American history, my professional interest and my modeling interests, have diversified widely. Finally, with the purchase of our first house, management decided the two car garage was far my work layout, so around the perimeter shelf layout, leaving the central concourse with layout prepared for Bachmann Christmas Train set. As we took ownership, it was a wonderful to develop half of the two car garage for the recently retired of the Train In Trouble, current President Chad Cultrera as a 1960s-era inspired Rivers City and Coastal Chatel. Now I model a portion of the Los Schubertos with two staging yards one representing tracks to the north and one representing tracks to the south of the modeled city.

As I had grown up as a model railroader, it was only natural that when my wife retired, my dad still mentioned to me that I was broke in Lou. Add to Bachmann, to the hobby I am happy to report he is a very active model railroader and NMRA member as well. When his son moved, he received a train set for his birthday Christmas. Today, my nephew, Thomas, is also actively involved in model railroading, holding HO and O scale with a NMRA member dad.

All the above is background to relate the process of how I made little point in my modeling life to achieve this singular honor as a MMR. While serve as a division meeting of Division 1 (Trinity River Division) of the Lone Star Region in which they talked about the Golden Spike award, to encourage us to contact Tom Brewing (Donald's new MMR #99), exhortation to change of helping NMRA member receive Golden Spike within the GR. Tom quickly agreed to come visit my layout. This meeting he realized that I had done from one time to lessons in the Dallas area. To Tom's credit, he drove that distance, and I received my Gold Spike award in November 2007. It was wholly unexpected. Tom encouraged me to pursue the celebration (necessary for the MMR, owing that I had given presentations about how wrote and the third board, upon the state of my concentration). Tom would repeat that long drive along with Duane Bilderback (MMR #39) to judge the third (and, and actually).

With Tom's encouragement, as well as the continuing support from my number, Melissa, my dear wife, Cheryl, my dear mentor, mentor, nephew, Thomas I launched myself into the project and began to turn the necessary certificates for the MMR. I would be remiss if I didn't specifically acknowledge each of those who encouraging me to "stay the course" in those times when I began to question whether I could indeed, accomplish this recognition in the hobby. I also wishes thank several other GR members who participated in judging various parts of my AP process.

In addition to the Golden Spike, Bob has earned the following: AP Completed Model Railroad Engineer—Electrical, Model Railroad Engineer—Civil, Master Builder—Scenery, Master Builder—Cars, Chief Dispatcher, Model Railroad Judging and Operation Volunteer.

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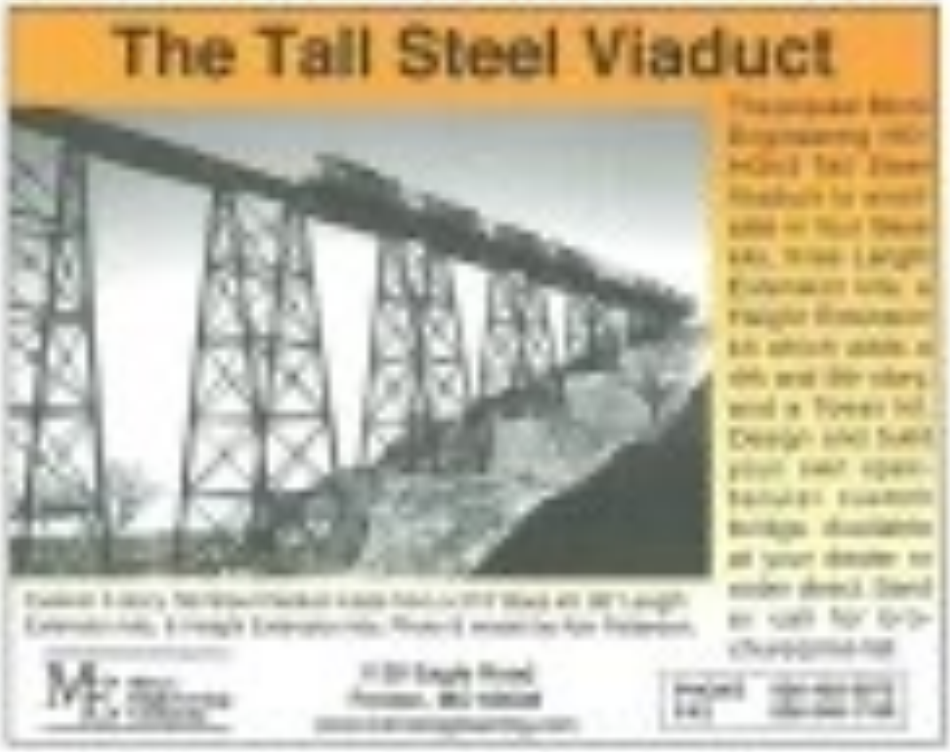
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Tony Koester

An enviable state of affairs

Dave Miles and Ed Welch are just getting started on a new HO scale railroad with myriad challenges, yet unlimited possibilities. The photos show one of the original plan sketches and the corresponding benchwork under construction. Dave Miles photos

Wouldn't it be great if we could, with a full and clear vision, let whatever it was to be, unfolded one before you? You didn't know of them, but a cornucopia of possibilities was at your fingertips. It was just bad luck to be where you were, a teenager whose teachers and classmates were current user-friendly electronic toys could have taken better advantage of these opportunities.

Anyone contemplating his or her model railroad is an innovator's manager. So many possibilities, challenges, desires, pitfalls, and forks in the road lie ahead. Should one complete track work chosen a specific prototype or model or a composite railroad from real life? Wouldn't Dollywood give you more options? So, for the more practical-only-and-garage-in-NYC, but is it what the end "What's all this customizing, always Digital Command Control (DCC) and sound decoders? What track products will have been (was) made? Is a radio-dock railroad a bit more work, and is the gain in machine use and owner savings really worth the extra effort?

Here in the world, how can any one gain successfully through the maze of what appear to be costly obsolescence?

What occasioned this contemplation was a small know-me friend (Dave Miles) who as a small know-me friend (Dave Miles) spends "time" had with the same (like his and his friend Ed Welch) are planning a "Dawnville" new HO scale model railroading for Buffalo, Rochester & Pittsburgh Rr., plus Baltimore & Ohio in the early part of the 20th century. Dave and Ed are diving into the deep end of the pool, two decks connected with a pair of ladders and a railroading, if somewhat unfamiliar, model of the card decks in Concord. Everything from excavation across to card switching and even a logging railroad are on their "wish" screen, all controlled by RR DCC (R.R.). scenes.

Towards exhibition, doesn't it?

I'm known (Dave) be artistic-minded and I have resolved to the better long enough to know what he and Ed are getting into. Besides, questioning their judgment is a very negative attitude to take. We're not asking as to they track in their conception, after all.

The fact is "made up" Miles from the positive side. Take a few moments to think about a railroad that has captured your interest over the years, perhaps your hometown railroad or a favorite railroad as it appears today or back at. So, even 240 years ago.

It's hard to visualize something that existed long before you were born, one not? But that's exactly the obstacle that Dave and Ed have addressed, started to their path. Just in so doing, they have positioned themselves at the threshold of what will always certainly be an adventure of a lifetime.

Imagine all of the "Eureka!" moments that they'll encounter on the way to enlightenment. I know just enough about the BR&P to realize that it was an interesting railroad. Out of curiosity, I did a Google search, and the first link that popped up was to a website map of the 4 shared railroad. That was followed by several references to books, magazine articles, annual reports, a list of stations and half-stations, photographs, a roster and list of pre-served equipment, invaluable more than enough to keep the up late for weeks.

But the fun doesn't begin with perusing such documents. It starts with the thrill of the hunt. Frankly I wouldn't model a railroad for which copious information is readily available. I want to work it out for myself and "contribute to the literature" by gathering and sorting it, and then by sharing my findings with others.

There have been many "Eureka!" moments as I'm convinced he and Ed are unknowingly modeled by modeling practices or to other operating methodologies. For example, I found a court-sealed sketch and photo of the superintendent's office at Knoxville, Iowa, dated as a result of hold-over from around 1940 to the National Archives. Knoxville is a village Pack, 1940. It had been patently courting for me to prove. It was all I could do to avoid jumping atop the table and doing some sort of victory dance.

Bad news: I relapsed into a good-bad constitution.

I had similar experiences with my Dockwood (Wright's Wildwood) show. I found some model prototype structures and also helpful notes on such delightful and tracked to those who model a specific prototype. The point is that a thank about a major should not be seen as an overwhelming hurdle but as an important invitation to begin a journey of discovery. I also think and hit, be sure to enjoy that part of your trip.

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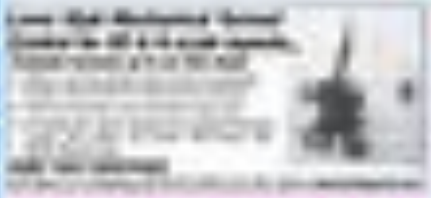

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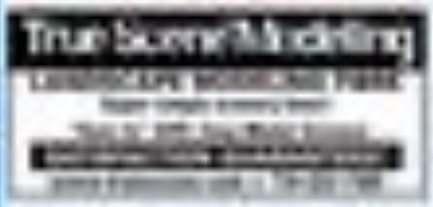
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This unobtrusive view of a Lionel Inc. 1-32Vdc 2-48 track switch w/ "turnout" identifier has two components and other focal points for troubleshooting.

Troubleshooting FasTrack turnouts

TIPS FOR KEEPING MODERN LIONEL TRACK SWITCHES IN GOOD WORKING ORDER

Since its introduction in 1990, the Lionel FasTrack O gauge track system has become unfortunately popular with many modelers. That holds true on the hobby shop where I work as repair technician. But now that the popular whistle stop layout has been on the market for several years, I'm finding more and more FasTrack track switches with a few issues.

Even though several of these issues can be easily diagnosed and fixed, I've found that some have operators using a considerable number of tools and other modeling techniques (see page 36 for a sampling of such problems). When some problems need dig right into the mechanisms of a Lionel switch, I'm [illegible] [illegible] [illegible]

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